

**Joint ESENIAS and DIAS Scientific Conference
2022 and 11th ESENIAS Workshop**

**Invasive alien species under conditions of
global crisis**

13 – 15 November 2022

Book of Abstracts

Demre, Antalya, Türkiye

2022



The Conference was organised and supported by:

**General Directorate of Fisheries and Aquaculture,
Ministry of Agriculture and Forestry, Türkiye (GDFA)**

**General Directorate of Agricultural Research and Policies,
Ministry of Agriculture and Forestry, Türkiye**

East and South European Network for Invasive Alien Species (ESENIAS)

Danube Region Invasive Alien Species Network (DIAS)

**Mediterranean Fisheries Research, Production and Training Institute,
Ministry of Agriculture and Forestry, Türkiye (MFRPTI)**

In cooperation with:

Faculty of Agriculture, Canakkale Onsekiz Mart University, Türkiye

**Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of
Sciences, Bulgaria (IBER-BAS)**

Faculty of Agriculture, University of Forestry, Bulgaria

Faculty of Science, Hacettepe University, Türkiye

SuEkos, Türkiye

EWRS Invasive Alien Plants Working Group

**Joint ESENIAS and DIAS Scientific Conference 2022 and
11th ESENIAS Workshop**

Invasive alien species under conditions of global crisis

13 – 15 November 2022

**Demre, Antalya, Türkiye
In-person and Virtual Format**

Book of Abstracts

**General Directorate of Fisheries and Aquaculture,
Ministry of Agriculture and Forestry, Türkiye (GDFFA)**

**Mediterranean Fisheries Research, Production and Training Institute,
Ministry of Agriculture and Forestry, Türkiye (MFRPTI)**

**Institute of Biodiversity and Ecosystem Research,
Bulgarian Academy of Sciences, Bulgaria (IBER-BAS)**

**East and South European Network for Invasive Alien Species
(ESENIAS)**

Danube Region Invasive Alien Species Network (DIAS)

Demre, Antalya, Türkiye

2022

**Joint ESENIAS and DIAS Scientific Conference 2022 and
11th ESENIAS Workshop**

**Invasive alien species under conditions of
global crisis**

13 – 15 November 2022

**Demre, Antalya, Türkiye
In-person and Virtual Format**

Book of Abstracts

Editors:

**Hristina Kalcheva, F. Güler Ekmekçi,
Paraskevi K. Karachle, Ahmet Uludağ,
Rumen Tomov, Teodora Trichkova,
Mahir Kanyılmaz, Mustafa Altuğ Atalay**

Demre, Antalya, Türkiye

2022

Acknowledgements to the ESENIAS & DIAS Organising and Scientific Committees:

Organising Committee

Mustafa Altuğ Atalay, GDFA (Chair)
Mahir Kanyılmaz, GDFA (Co-chair)
Ahmet Uludağ, ÇOMÜ, ESENIAS, DIAS, SUEKOS, EWRS IP WG (Co-chair)
Teodora Trichkova, IBER-BAS, ESENIAS, DIAS (Co-chair)
F. Güler Ekmekçi, Hacettepe University, ESENIAS (Co-chair)
Paraskevi Karachle, HCMR, ESENIAS (Co-chair)
Rumen Tomov, University of Forestry, ESENIAS, DIAS (Co-chair)

Derya Özcan, GDFA
Elvan Tercan, GDFA
Baran Yoğutçuoğlu, Hacettepe University
Bojan Konstantinovic, Novi Sad University, EWRS IP WG
Herdem Aslan, SuEkos
Hristina Kalcheva, IBER-BAS, ESENIAS
Murat Şeker, ÇOMÜ
Serkan Erkan, MFRPTI
Durali Eraslan, MFRPTI
Mehmet Ali Turan Koçer, MFRPTI

Scientific Committee

Ahmet Uludağ, Türkiye (Chair)
Teodora Trichkova, Bulgaria (Co-chair)
Paraskevi Karachle, Greece (Co-chair)
F. Güler Ekmekçi, Türkiye (Co-chair)
Mahir Kanyılmaz, Türkiye (Co-chair)
Rumen Tomov, Bulgaria (Co-chair)
Abdullah Ünlü, Türkiye
Ahmet Tansel Serim, Türkiye
Ali Serhan Tarkan, Türkiye
Angela Bănăduc, Romania
Argyro Zenetos, Greece
Bella Japoshvili, Georgia
Bojan Simovski, R. North Macedonia
Dan Cogălniceanu, Romania
Doru Bănăduc, Romania
Durali Eraslan, Türkiye
Elena Tricarico, Italy
Halit Filiz, Türkiye

Hristina Kalcheva, Bulgaria
Hüseyin Sevgili, Türkiye
İlhan Üremiş, Türkiye
İlker Kurbetli, Türkiye
Khawar Jabran, Türkiye
Konstantin Zdraveski, R. North Macedonia
Mehmet Ali Turan Koçer, Türkiye
Mohammad Taghi Alebrahim, Iran
Mustafa Altuğ Atalay, Türkiye
Necmi Aksoy, Türkiye
Okan Acar, Türkiye
Sasho Trajanovski, R. North Macedonia
Şerife Gülsün Kırankaya, Türkiye
Serkan Erkan, Türkiye
Süleyman Türkseven, Türkiye
Sven Jelaska, Croatia
Violeta Tyufekchieva, Bulgaria
Vladimir Vladimirov, Bulgaria
Yuriy Kvach, Ukraine

Contents

CONFERENCE PROGRAMME	11
-----------------------------------	----

KEYNOTE PRESENTATIONS	19
------------------------------------	----

Davison P. I., Copp G. H. – Environmental DNA (eDNA) for detecting alien fishes and inform management decisions on eradication: a case study in Southern England	20
Lunsford D, Otis F. T., Bajada R. (Stream Ocean) – Making the invisible visible: A solution for improved underwater surveillance of invasive alien species	21
Öztürk B. – Non indigenous marine species in Turkish waters and some considerations	22
Tarkan A. S. – InvaCost, a public database of the economic costs of biological invasions worldwide – current situation and the way forward	23
Tomov R., Ciceoi R. – Non-chemical pest management in horticulture by alien beneficial organisms – knowledge gap analysis	24
Trichkova T., Tomov R., Vladimirov V., Todorov M., Tsvetkova E., Tyufekchieva V., Kalcheva H., Nikova P. K. – Applying citizen science tools for invasive alien species: case study from Bulgaria	25

PRESENTATIONS

TOPIC 1: INVASIVE ALIEN SPECIES TRAITS AND TRENDS

Andrianopoulos I., Karachle P. K., Dogrammatzi A., Michaloudi E. – The feeding habits of the non-indigenous <i>Etrumeus golanii</i> from the Aegean Sea	27
Aydın H., Cingöz E. E. – Phytoplankton invasions in Mediterranean Sea	28
Ciceoi R., Venat O., Gutue M., Luchian V., Stavrescu-Bedivan M.-M. – Establishment of <i>Aceria kuko</i> , Goji berry gall mite, in Romania	29
Cingöz E. E., Aydın H. – Invasive phytoplankton spreadings in the Black Sea	30
Copp G. H., Dodd J. A., Tidbury H. J., Leuven R. S. E. W., Feunteun E., Olsson K. H., Gollasch S., Jelmert A., O'Shaughnessy K. A., Reeves D., Brenner J., Verreycken H. – Invasiveness risks of naked goby, <i>Gobiosoma bosc</i> , to North Sea transitional waters	31
Danci O.-V., Drăgulescu C. – Riparian invasive alien plant species in Southern Transylvania, Romania: history of introduction, chorology and ecology	32
Karakuş M., Aydın C. M. – Some findings on the diversity and biomass of alien and invasive alien species in the Mediterranean coast of Turkey	33
Kaya C., Ekmekçi F. G., Yoğurtçuoğlu B. – First introduced record of Doctor fish (<i>Garra rufa</i>) in Turkey	34
Kebapçı Ü. – To or From?: A Snail Story	35
Kebapçı Ü., Yıldırım M. Z. – Nonnative invasive terrestrial slugs of Türkiye	36
Kitiş Y. E., Çavuşoğlu O., Göktürk R. S. – A new alien plant species recorded for the flora of Türkiye: <i>Fatoua villosa</i> (Thunb.) Nakai (Moraceae)	37
Kondylatos G., Mavrouleas D., Conides A., Klaoudatos D. – EXPLIAS – Non-indigenous species in experimental fishing with static nets in Rhodes Island	38

Mannino A. M., Balistreri P., Gambi M. C. – An updated overview of biological invasions in Sicilian Islands, Southern Mediterranean Sea	39
Mercan D., Aksu S., Arslan N., Emiroğlu Ö., Tarkan A. S. – Determination of potential invasion areas of <i>Pontogammarus robustoides</i> (Sars, 1894) (Amphipoda) for Turkish inland waters with ecological niche modeling	40
Özer A. – The current parasitic assemblages in native gobiid fishes in Türkiye and their interactions with gobiid hosts in expanded ranges	41
Özkan N. G., Koçer N., Aksoy N. – First record of invasive macrophyte <i>Elodea nuttallii</i> (Planch.) H. St. John (Hydrocharitaceae) in Türkiye	42
Paulauskas A., Gričiuvienė L., Mažeika V., Paulauskienė N., Ražanskė I., Radzijeuskaja J. – Invasion of golden jackal <i>Canis aureus</i> in Baltic countries	43
Tunçkol B., Özkan N. G., Aksoy N., Uludağ A. – Taxonomical notes, ecological and chorological update on <i>Opuntia macrorhiza</i> Engelm. in Türkiye	44
Ulman A., Yıldız T., Mavruk S., Kalogirou S., Demirel N., Pauly D. – An update on pufferfish research in Turkey: biology and ecology for <i>Lagocephalus sceleratus</i> and <i>Torquigener flavimaculosus</i>	45
Uludağ A., Sezer İ. E. – The non-native genus <i>Echinochloa</i> as weeds in the non-native crop rice in Gönen, Türkiye	46
Vagenas G., Oikonomou A., Karachle P. K. – The fish fauna inhabiting the Mediterranean and Red Sea: a comparative analysis of traits between native and non-indigenous species	47
Varshanidze M., Mgeladze M., Joglidze T., Vadachkoria P., Mikeladze R., Japoshvili B. – Present state of Rapa whelk (<i>Rapana venosa</i>) on the Black Sea coast of Georgia...48	
Vasiliev A. – First evidence of <i>Simulium dahestanicum</i> (Rubtsov, 1962) in Europe	49
Yıldırım M. Z., Kebapçı Ü. – Exotic pet trade snails in the Mediterranean region of Türkiye.....	50

TOPIC 2: VECTORS AND PATHWAYS FOR INVASIVE ALIEN SPECIES INTRODUCTIONS

Aksoy N., Uludağ A., Üremiş İ., Tunçkol B., Özkan N. G. – <i>Reynoutria japonica</i> Houtt.: Its pathways, ecological and chorological notes for flora of Türkiye	52
Kebapçı Ü. – Feral ground of invasiveness	53
Ulman A., Ferrario J., Occhipinti-Ambrogi A., Arvanitidis C., Marchini A. – Recreational boating as a major vector of spread of nonindigenous species around the Mediterranean	54

TOPIC 3: THE DANUBE RIVER AS INVASIVE ALIEN SPECIES CORRIDOR

Nikova P. K., Trichkova T., Todorov M. – Invasive alien species of Union concern in fresh waters of Sofia Region: Preliminary results.....	56
Urziceanu M., Nagodă E., Cişlariu A. G., Sîrbu I.-M., Camen-Comănescu P., Raicu M., Anastasiu P. – Alien plant invasion hotspots in the lower Danube sector, as a result of human-modified landscapes. Study case: Borcea Branch, Romania.....	57

TOPIC 4: INVASIVE ALIEN SPECIES IMPACT

Akgün Y., Akoğlu E. – The impact of Lessepsian migrant Randall’s threadfin bream (<i>Nemipterus randalli</i>) on the food web and fishery	59
Dogdu G. – A critical growing challenge: Environmental and health impacts of invasive alien species	60

- İnnal D.** – Identification of non-native freshwater fishes in Turkey's Mediterranean brackish water systems and assessment of their potential threats to the native fish fauna61
- Khan H., Uslu Ö. S., Gedik O.** – The impact of climate change and invasive alien weeds on biodiversity of Pakistan62
- Uludağ A., Aksoy N., Üremiş İ., Brundu G.** – *Eucalyptus* L'Hér. spp. (Myrtaceae), potential threat to Mediterranean ecosystems of Türkiye63

TOPICS 5 & 6: INVASIVE ALIEN SPECIES PREVENTION AND MANAGEMENT; MANAGEMENT AND SHARING OF IAS DATA

- Akbar M., Raza A., Khalil T., Yasin N. A., Nazir Y., Ahmad A.** – Allelopathic activity of *Digera muricata*, against two weeds, *Avena fatua* and *Melilotus indicus*65
- Çiftçioğlu M., Cerim H.** – Assessment of invasiveness potential of *Diadema setosum* (Leske, 1778) (Echinodermata: Diadematidae) by the Aquatic Species Invasiveness Screening Kit (AS-ISK)66
- Cîşlariu A. G., Camen-Comănescu P., Sîrbu I.-M., Urziceanu M., Nagodă E., Raicu M., Anastasiu P.** – Risk assessment of *Phytolacca americana* in Romania67
- Ekmekçi M., Yoğurtçuoğlu B., Ekmekçi F. G., Açikel Ş.** – Use of ecohydrological approach in controlling invasive species: A case study in Acıgöl groundwater dependent ecosystem68
- Kanyılmaz M., Atalay M. A., Çiftçi S., Özcan D., Tercan E.** – Evaluation of pufferfish catching incentive model in Türkiye69
- Lukanov S., Lazarkevich I., Vacheva E., Slavchev M., Stanchev N., Dimitrova B., Todorov N., Dyugmedzhiev A., Naumov B.** – Removal of the invasive terrapin *Trachemys scripta elegans* from a protected site in Bulgaria – risk assessment and future perspectives70
- Saulić M., Djalović I., Božić D., Vrbničanin S.** – Soil Seed Bank of Ragweeds under different management systems71
- Žalnierius T., Šveikauskas V., Jurkonienė S.** – Seeds of *H. sosnowskyi* from terminal and satellite umbels developed under gibberellic acid treatment, germinate differently.....72

TOPIC 7: OTHER TOPICS RELATED TO IAS

- Arslan P., Yıldırım M. Z., Günal A. Ç.** – The effects of fipronil on the freshwater snails...74
- Zdraveski K., Trajanovski S., Gjoreska B. B., Trajanovska S., Trichkova T.** – Scaling the anthropogenic impact and conservation challenges through ecosystem services and biological inventory in Sveti Naum Springs (Lake Ohrid)75
- Zengin M., Süer S., Rüzgâr M.** – Modification studies to reduce the impact on the benthic ecosystem of beam trawling, which is predominantly used in sea snail (*Rapana venosa*) fishing76

POSTERS

TOPIC 1: INVASIVE ALIEN SPECIES TRAITS AND TRENDS

- Belkinova D., Stoianova D., Beshkova M., Stoyanov P., Mladenov R.** – Current and predicted distribution of the invasive and potentially toxic species *Raphidiopsis raciborskii* (Cyanoprokaryota, Nostocales) in stagnant water bodies in Bulgaria78

Bushuyev S., Snigirov S., Kharlov G., Kvach Y. – New data on the distribution of the Far-Eastern shrimp, <i>Macrobrachium nipponense</i> (Malacostraca: Palaemonidae) in the southwestern Ukraine	79
Ekmekçi F. G., Yoğurtçuoğlu B., Kırnkaya Ş. G., Kaya C., Turan D. – Is zebra mussel a potential threat for native fauna in Alpaslan II Reservoir watershed	80
Gjonov I., Pramatarova M., Hızal E., Öztemiz S. – <i>Acanalonia conica</i> (Say, 1830) (Hemiptera: Acanaloniidae) – a new alien species in Bulgaria	81
Japoshvili B., Epitashvili G., Kuljanishvili T., Bikashvili A., Varshanidze M., Mumladze L. – Invasive species and protection of native biodiversity in Georgia	82
Jiménez-Ruiz J., Del Monte J. P., Santín-Montanyá M. I. – Phenotypic plasticity of <i>Arundo donax</i> L. (Giant reed) in Mediterranean ecosystems	83
Khutornoi S., Son M., Kvach Y. – New fishes in the fauna of the Sukhyi Lyman, North-Western Black Sea, Ukraine	84
Kvach Y., Kutsokon Y., Yuryshynets V. – The parasite of the big-scale sand-smelt (<i>Atherina boyeri</i>) in native and acquired range in Ukraine	85
Skolka M., Cogălniceanu D., Memedemin D., Drăgan O., Gavrilesco C., Tanase T. – <i>Corytucha arcuata</i> (Say, 1832) (Heteroptera, Tingidae) in alpine habitats from the Romanian Carpathians	86
Skolka M., Memedemin D., Drăgan O., Gavrilesco C. – New data on the presence of <i>Sceliphron curvatum</i> (F. Smith, 1870) (Hymenoptera, Sphecidae) in Romania	87
Theissinger K., Georges J.-Y., Pupins M., Nekrasova O., Marushchak O., Čeirāns A., Skute A. – Prospects for the distribution of the North American species signal crayfish <i>Pacifastacus leniusculus</i> in Europe	88
Tomov R. – Alien insect species in areas with rich biodiversity in Sofia Municipality	89
Tomov R. – Occurrence of <i>Cacopsylla pulchella</i> (Löw, 1877) (Hemiptera, Psyllidae) in Bulgaria	90

TOPIC 2: VECTORS AND PATHWAYS FOR INVASIVE ALIEN SPECIES INTRODUCTIONS

Davydenko I. – Waterfowl and wetland birds as a factor of distribution of invasive fish species on the territory of Ukraine.....	92
Drăgan O., Dan Cogălniceanu D. – Introduced fish species in Romanian alpine lakes: Retezat National Park case study.....	93
Salkova D. – Prevalence and pathways for introduction of small hive beetle (<i>Aethina tumida</i>).....	94

TOPIC 4: INVASIVE ALIEN SPECIES IMPACT

Razgūnaitė M., Radzijeuskaja J., Paulauskas A. – Domestic cat part-wild hybrid identification using diagnostic molecular methods	96
---	----

TOPICS 5 & 6: INVASIVE ALIEN SPECIES PREVENTION AND MANAGEMENT; MANAGEMENT AND SHARING OF IAS DATA

Grădilă M., Ciontu V. M., Cristea R. M., Jalobă D. – Monitoring of spreading of invasive plant <i>Erigeron annuus</i> (L.) Pers. (daisy fleabane) in cereals crops in southeast Romania	98
Jaćimović M., Smederevac-Lalić M., Nikolić D., Cvijanović G., Spasić S., Višnjić-Jeftić Ž, Skorić S., Krpo-Četković J. – Effects of selective removal of the black bullhead	

<i>(Ameiurus melas)</i> on other non-native fish populations in the Ponjavica Nature Park (Serbia)	99
Velchev D., Petrovska N., Toshova T., Takov D., Todorov I., Pilarska D., Tóth M. – Potential of the mycoinsecticide Naturalis® for use in strategies of crop protection against <i>Diabrotica virgifera virgifera</i> LeConte, 1858	100

TOPIC 7: OTHER TOPICS RELATED TO IAS

Blazhekovikj-Dimovska D., Stojanovski S., Velkova-Jordanoska L., Kostov V., Manevska I., Arsovska J., Veljanovski K. – First record of <i>Pomphorhynchus bosniacus</i> (Kiškarolj et Čanković, 1969) (Paleacanthocephala: Pomphorhynchidae) in some cyprinid fish from Belčišta wetland (North Macedonia)	102
Koçak E., Türk B. – <i>Pheidole</i> sp. and <i>Tapinoma</i> sp. (Hymenoptera: Formicidae) changing food preferences	103
Lykholat O. A., Khromykh N. O., Lykholat T. Y., Didur O. O., Kvitko M. O., Lykholat Y. V. – Introduced fruit crops as a way of floral enrichment (on the example of Jostaberry plants).....	104
Stojanovski S., Blazhekovikj-Dimovska D., Velkova-Jordanoska L., Kostov V., Manevska I., Arsovska J. – First record of <i>Acanthocephalus lucii</i> (Müller, 1776) Lühe, 1911 (Paleacanthocephala: Echinorhynchidae) in minnow (<i>Phoxinus lumaireul</i> Linnaeus, 1758) from Belčišta wetland, North Macedonia	105
Velkova-Jordanoska L., Stojanovski S., Blazhekovikj-Dimovska D., Veljanovski K. – Fish populations on Belcista wetland – risk assessment, prevention and management	106
List of Authors	107

First record of *Pomphorhynchus bosniacus* (Kiškarolj et Čanković, 1969) (Paleacanthocephala: Pomphorhynchidae) in some cyprinid fish from Belčišta wetland (North Macedonia)

Dijana Blazhekovikj-Dimovska¹, Stojmir Stojanovski², Lidija Velkova-Jordanoska², Vasil Kostov³, Irina Manevska³, Julijana Arsovska⁴, Kristijan Veljanovski¹

¹ Faculty of Biotechnical Sciences, University “St. Kliment Ohridski”, “Partizanska” b.b., Bitola, North Macedonia; email: dijanablazekovic@yahoo.com

² Hidrobiological Institute, “Naum Ohridski” 50, Ohrid, North Macedonia

³ Institute of Animal Sciences, University “St. Cyril and Methodius”, Skopje, North Macedonia

⁴ Faculty of Natural Sciences and Mathematics, Institute of Biology, University “St. Cyril and Methodius”, Skopje, North Macedonia

The representatives of the phylum Acanthocephala are of great importance in fish pathology. *Pomphorhynchus bosniacus* (Kiškarolj et Čanković, 1969) (Paleacanthocephala: Pomphorhynchidae) is an intestinal parasite of many freshwater fishes confined to limited geographical areas of southeastern Europe (waters of Balkan), including Bosnia and Herzegovina and North Macedonia. In our case study, a total of 33 specimens of 3 cyprinid fish species (*Squalius squalus*, *Phoxinus lumaireul*, and *Pelasgus minutus*) from Belčišta wetland (southwest Macedonia) were subjected to a parasitological investigation, by seasons. Only fresh fish were subjected to routine identification, dissection, and observation methods. Parasite identification was performed morphologically, based on the character of the proboscis with hooks and the reproductive system, using a referent key for determination. Thereby, infestation by the parasite was determined in all fish species, so the prevalence was the highest in *Phoxinus lumaireul* (80.0%), followed by *Pelagius minutus* (75.0%) and *Squalius squalus* (66.67%). The highest mean intensity was determined in *Squalius squalus* (5.40), followed by *Phoxinus lumaireul* (4.75) and *Pelagius minutus* (3.0).

This parasite species can lead to heavy impairment of fish health status because the parasite penetrates the bulb and proboscis through the gut wall into the peritoneal lumen and even attach to abdominal organs.

The record of *Pomphorhynchus bosniacus* in all three cyprinid fish species in the present study is considered the first in Belčišta wetland. At the same time, *Phoxinus lumaireul* and *Pelagius minutus* represent new hosts for this parasite worldwide.

Key words: *Pomphorhynchus bosniacus*, cyprinid fish, Belčišta wetland.