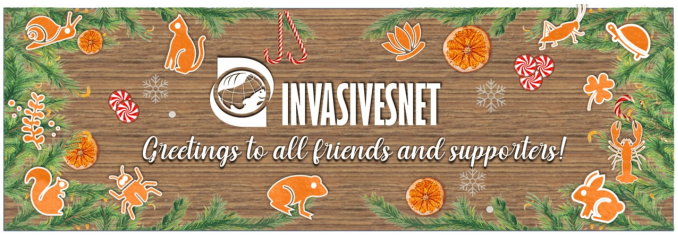
December 2025

NEWSLETTER



Dear INVASIVESNET members,
In our newsletter you can read about:

FIRST GuardIAS VIRTUAL CONFERENCE
"Prevention of Invasive Alien Species Introductions and Biosecurity Risk Assessment" (13th - 14th November 2025)
Book of abstracts available!

NEWS FROM MEMBERS
- Contributions from INVASIVESNET members
- Recent publications by INVASIVESNET Members
- FORSAID: New technological horizons in the domain of forest pest control

SECOND WEBINAR INVASIVESNET-GuardIAS
Dr Deborah Hofstra and Merekara Anee Warrington
Available at INVASIVESNET YouTube Channel!

COLLABORATE WITH INVASIVESNET!

HIGHLIGHTS from our JOURNALS
Aquatic Invasions vol. 20(4)
BioInvasions Records vol. 14(4)
Management of Biological Invasions vol. 16(4)

INVASIVESNET

ABOUT US

International Association for Open Knowledge on Invasive Alien Species is a non-profit, non-governmental organization open to individuals and organizations involved in research, management and exchange of knowledge on invasive species.

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GuardIAS
GUARDING EUROPEAN WATERS FROM INVASIVE ALIEN SPECIES

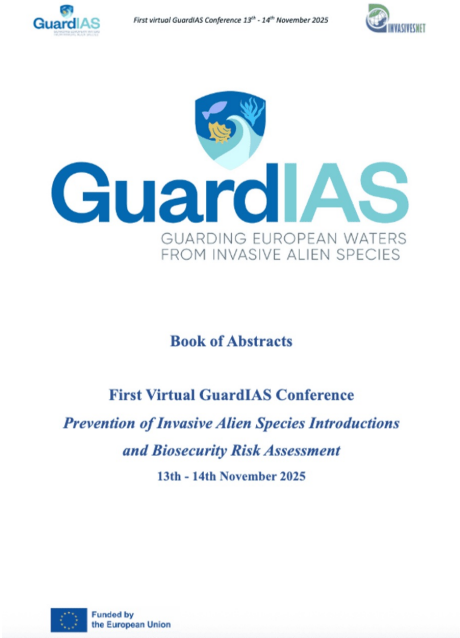
Funded by the European Union

First GuardIAS Virtual Conference

"Prevention of Invasive Alien Species Introductions and Biosecurity Risk Assessment" (13th - 14th November 2025)

The first virtual GuardIAS Conference was hosted and organized by INVASIVESNET - the International Association for Open Knowledge on Invasive Alien Species.

This Conference was supported by the European Union's Horizon Europe HORIZON CL6-2024-BIODIV-01 project "GuardIAS - Guarding European Waters from IAS". The GuardIAS Project is a three-year initiative funded by the European Union's Horizon Europe Research and Innovation Programme which commenced on 1 January 2025. The project brings together a diverse consortium of researchers, practitioners, policymakers, and stakeholders with a shared objective: to enhance the prevention, detection, and management of Invasive Alien Species (IAS), with a particular focus on aquatic environments (Katsanevakis et al. 2024).



The abstracts of the first virtual GuardIAS conference are from both oral and poster presentations and reflect the breadth and depth of ongoing research and innovation within the GuardIAS consortium. Collectively, they illustrate the project's contribution to advancing scientific understanding, improving monitoring and management practices, and reinforcing Europe's commitment to preserving biodiversity and ecosystem resilience in the face of biological invasions. Also, additional abstracts are from international research outside the GuardIAS project (Lucy et al. 2025).

References

- Katsanevakis S, Zaiko A, Olenin S, Costello MJ, Gallardo B, Tricarico E, Adriaens T, Jeschke JM, Sini M, Burke N, Ellinas K, Rutten S, Poursanidis D, Marchini A, Brys R, Raeymaekers JAM, Noé N, Hermoso V, Blaalid R, Lucy FE, Verbrugge LNH, Staehr PAU, Vandepitte L, de Groot D, Elliott M, Reuver M, Maclaren J, Li M, Oldoni D, Mazaris A, Trygonis V, Hablützel PI, Everts T, Pistevos JCA, Dekeyzer S, Kimmig SE, Rickowski FS, Panov VE (2024) GuardIAS – Guarding European Waters from Invasive Alien Species. Management of Biological Invasions 15: 701–730

- Lucy FE, Meehan S, Gomez-Maldonado S, Giachetti C, Jones T, Panov VE (Editors) (2025) Abstracts of the First Virtual GuardIAS Conference (13th - 14th November 2025), GuardIAS Project, 61 pp.

News from INVASIVESNET members

Contribution from Teun Everts

Drowning in papers you don't have time to read?

Discover Natural Science Deep Dive, a YouTube channel that turns scientific papers into clear, concise 10–15 minute spoken-word summaries. With more than 200 papers already transformed into mini-podcasts, it's a fast and accessible way to stay up-to-date with the literature.

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Survey: Addressing invasion science's "tower of Babel" — can we avoid being lost in translation?

The language we use to describe biological invasions is more complex than it seems. What exactly counts as a non-native species? When does it become invasive? Under what conditions is it considered naturalised? And do these definitions differ among researchers, managers, and policymakers?

Help the global community clarify these questions by completing this short international survey (5–10 minutes).

New articles - Contribution from Kevin C. K. Ma

Pratt CJ, Trott TJ, Bernier RY, Boerder K, Goodwin C, Barrell J, Grégoire B, Rawlings TA, Cronmiller E, Ma KCK, Sargent PS, McBride MC, DiBacco C, Hiltz C, Kingsbury S. 2025. The overlooked introduction of the encrusting bryozoan Juxtacribrilina mutabilis to eastern Canada. Journal of the Marine Biological Association of the United Kingdom 105: e98.

Ma KCK, Reddy S, Froneman PW, Porri F, McQuaid CD. 2025. Locality-based community science facilitates early detection and monitoring: The case of an extralimital population of a brachyuran crab. Management of Biological Invasions 16 (2): 531–544.

FORSAID: New technological horizons in the domain of forest pest control - Contribution from Maarten De Groot

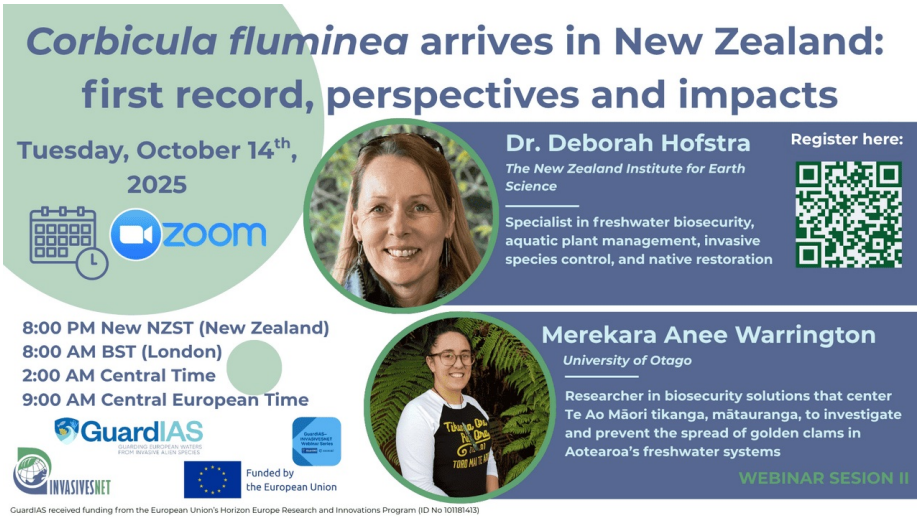
FORSAID is a Horizon Europe project bringing together 17 partners to advance the early detection and monitoring of forest pests by employing the latest digital tools, robotics, and artificial intelligence. The project aims to strengthen the protection of forest ecosystems by enabling faster and more accurate surveillance. The project focuses on ten major pest species, several of which are recognized as invasive outside their native ranges: three fungi (*Ceratocystis platani, Cryphonectria parasitica*, and *Fusarium circinatum*), six insects (*Agrilus anxius, Agrilus planipennis, Corythucha arcuata, Ips typographus, Thaumetopoea pityocampa*, and *Thaumetopoea processionea*), and one nematode (*Bursaphelenchus xylophilus* and its insect vectors *Monochamus* spp.). More information can be found here.

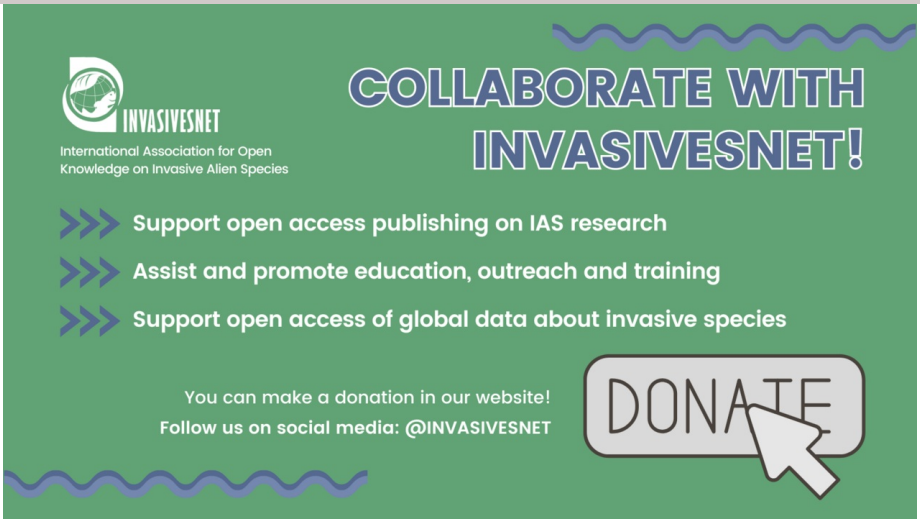
INVASIVESNET NEWSLETTER December 2025

Second webinar INVASIVESNET - GuardIAS

The second INVASIVESNET–GuardIAS webinar featured Dr. Deborah Hofstra (The New Zealand Institute for Earth Science), a specialist in freshwater biosecurity, aquatic plan management, invasive species control and native restoration. She was accompanied by Merekara Anee Warrington (University of Otago), researcher in biosecurity solutions that

center Te Ao Māori tikanga, mātauranga, to investigate and prevent the spread of golden clams in Aotearoa's freshwater systems. In this talk, Dr. Hofstra and Warrington explored the arrival of Corbicula fluminea in New Zealand, including its impacts. The session includes a live Q&A with the audience. Watch here!





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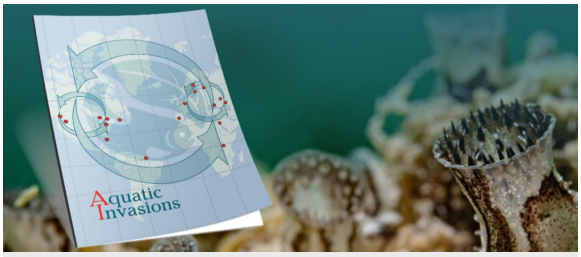
Highlights from Aquatic Invasions



Aquatic Invasions - Volume 20, Issue 4 (2025)

This issue of *Aquatic Invasions* contains six new research articles and one review, spanning a wide range of species, habitats, and invasion stages.

Four research articles comprise empirical studies. Hedden et al. investigated various quadrat sampling protocols for the detection of New Zealand mudsnails (*Potamopyrgus antipodarum*) at very low densities, and found that taking 14 quadrat Surber samples using non-random strategic site selection consistently led to capture probabilities over 99%. Turon et al. describe the first occurrence and rapid expansion of the solitary ascidian *Cnemidocarpa irene* in natural marine habitats of Tenerife (Canary Islands), underscoring the vulnerability of oceanic islands to marine biological invasions, the importance of ports and marinas as critical entry points, and the need for proactive surveillance and early intervention strategies. Coignard et al. identified the spatiotemporal variations of the distribution and density of *Arcuatula senhousia* in Arcachon Bay (France) between two time periods, determined the species' habitat characteristics, and located key-area to be monitored for management purposes using species distribution modelling. Lobos et al. investigated the trophic role of African clawed frogs (*Xenopus laevis*) in a Mediterranean stream from central Chile and investigated the extent of metal bioaccumulation.

Two more research articles in this special issue have an experimental study design. Zhao et al. provide experimental indications that apple snail (*Pomacea canaliculata*) eggs can survive gut passage by waterbirds such as mallards (*Anas platyrhynchos*), and that these long-distance endozoochory events may contribute to the spread of the snail in the introduced range. To gauge the risk of establishment and spread for non-native tropical species introduced to more subtropical regions, Tuckett et al. estimated the thermal tolerance of the Rio Cauca Caecilian (*Typhlonectes natans*), a novel non-native amphibian in Miami, United States.

Ota et al. synthesize 24 years of peer-reviewed literature to elucidate crayfish invasion pathways in the Great Lakes to inform future research efforts, policy development and surveillance initiatives, foster coordinated responses to invasive species threats, and contribute to the preservation of the Great Lakes Basin's ecological integrity.

Explore the latest issue of *Aquatic Invasions* here.

Highlights from Bioinvasions Records

BioInvasions Records - Volume 14, Issue 4 (2025)

This issue of *BioInvasions Records* includes 18 articles focused on new records of non-native species in terrestrial and aquatic ecosystems.

In this issue, the alien plant *Caragana arborescens* gets gradually naturalized and the Prussian carp *Carassius gibelio* is first recorded in the upper reaches of the Tergi River (Greater Caucasus) (Afanasyev et al.).

In marine ecosystems, new records, distributional data, the naturalization and impacts of

in Canada's southern boreal forests (Hinojosa et al.), *Asclepias curassavica* is reported as naturalized in north Iran threatening the Hyrcanian biodiversity hotspot (Khorasani et al.), and the occurrence and agricultural impact of *Artemisia verlotiorum* are studied in Austria (Follak et al.). The invasion of *Phytolacca americana* in natural areas and its potential distribution using habitat suitability modelling call for further action in Poland (Tokarska-Guzik et al.), and *Solanum elaeagnifolium* extends its distribution in Europe being first reported for Romania (Urziceanu et al.).

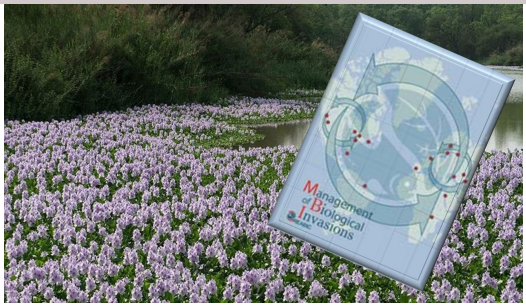
Studying invasions of terrestrial invertebrates, the land planarian *Obama nungara* is first recorded in Austria (Greilhuber et al.), while the ragweed leaf beetle *Ophraella communa* is first reported from southeastern France highlighting its potential as a biological control agent against its plant-host *Ambrosia artemisiifolia* (Rousset et al.). Three new non-native bumblebee species i.e. *Bombus hortorum*, *B. hypnorum* and *B. terrestris* are first reported from the Faroe Islands, alongside an updated statis and distribution of all non-native bumblebees on the islands (Goldberg et al.).

In freshwater ecosystems, the red swamp crayfish *Procambarus clarkii* is rediscovered in southern Idaho (United States) after a half century (Bloomer et al.)

numerous aquatic plants are revealed in México (*Pistia stratiotes* and *Pontederia crassipes*) (Huix et al.), Georgia (*Myriophyllum aquaticum*) (Tedoradze et al.), and Madagascar (*Pontederia crassipes*, *Pistia stratiotes*, *Salvinia molesta* and *Azolla filiculoides*) (Lehavana et al.). Furthermore, the red alga *Acanthophora spicifera* invades the Papahānaumokuākea Marine National Monument (Northwestern Hawaiian Islands) (Rankin et al.). A non-native vertebrate is also reported, with the first record of the black bullhead *Ameiurus melas* and its parasites detected in Lithuania (Rakauskas et al.). Lastly, non-native invertebrates are recorded from around the globe, with thirteen new records of the Lessepsian sea slug *Lamprohaminoea ovalis* being reported from Mediterranean areas (Azzola et al.), the blue swimming crab *Portunus segnis* being first recorded in the Stagnone lagoon in southwestern Sicily (Bennici et al.), and the opossum shrimps *Neomysis awatschensis* and *Rhopalophthalmus tartessicus* being first recorded from the Atlantic in the Gulf of Biscay, respectively (Wittmann and Abed-Navandi).

Explore the latest issue of *BioInvasions Records* here.

Highlights from Management of Biological Invasions



Management of Biological Invasions - Volume 16, Issue 4 (2025)

This issue of *Management of Biological Invasions* presents 14 research articles addressing the detection, impact, and management of a range of invasive species, highlighting novel methodologies and collaborative responses.

O'Shaughnessy et al. reviewed the current state of knowledge regarding aquatic plants as vectors for hitchhiking organisms and an emerging pathway of introduction of invasive species.

Jaeger et al. conducted climate matching and semi-quantitative screening-level risk assessments (SLRAs) to evaluate the potential for introduction and impact of aquatic non-native species in the Canadian

Wildhaber et al. determine if the effectiveness and practicality of control through trapping for invasive crayfish (Faxonius virilis) could be significantly improved with the addition of lights.

Wood et al. used laboratory experiments to develop and test lethal concentrations of ammonia for *Faxonius virilis* (northern crayfish) and *Procambarus clarkii* (red swamp crayfish).

Cole et al. explored the effectiveness of pH changes in causing mortality in aquatic IAS, using two invasive invertebrate species; *Dreissena polymorpha*, *Dikerogammarus villosus* and two invasive plant

Rocky Mountains.

Guerin et al. used a screening-level risk assessment - the Canadian Marine Invasive Screening Tool (CMIST) - to assess the potential ecological risks posed by non-indigenous species in areas of Quebec.

Clasgens et al. examine how legislative and planning milestones have influenced the rate of new AIS arrivals and the spread of existing and new AIS along the Ohio, Wabash, Cumberland, Alleghany, Monongahela, and Tennessee rivers.

Hewitt et al. examines Western Australian Port Authorities' motivations for implementing Introduced Marine Species (IMS) surveillance programs using a novel application of the research technique, cognitive mapping, in combination with the self-determination motivational theory perspective.

Zhou et al. explore the potential geographic distribution of *Pomacea canaliculata*, invasion and risk assessment of and assess its potential harm to rice fields through a case study in Hubei Province.

Firestone et al. highlight the challenges of zebra mussel (*Dreissena polymorpha*) eradication, particularly the importance of optimizing treatment timing with respect to water temperature, copper bioavailability, and site location in Colorado.

species; *Hydrocotyle ranunculoides*, *Crassula helmsii*.

Shu et al. report that non-native species to dominate the Kashgar and Yarkand rivers based on environmental DNA sampling and field surveys.

Whitten Harris et al. explore the distribution and abundance of weatherfish (*Misgurnus anguillicaudatus*) in the Illinois Waterway and show that weatherfish relative abundance was consistently low but higher in upstream pools compared to downstream pools.

Kindler et al. assess the photo-quadrat methods to estimate round goby (*Neogobius melanostomus*) densities in experimental mesocosms.

Miller et al. find that mammalian scent lures fail to increase detections of invasive Burmese pythons (*Python bivittatus*) in South Florida.

Explore the latest issue of *Management of Biological Invasions* here.

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