ALIEN CSI

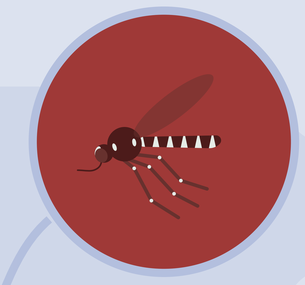
CA17122 Increasing understanding of alien species through citizen science

Non-native species or '**alien species**' are species introduced to new regions by humans. Introductions can be accidental (stowaways or escapes), intentional (deliberate release), or facilitated by anthropogenic corridors (canals, bridges, tunnels). **Invasive alien species** are the subset of alien species that survive in the new region and reproduce, spread and cause damage to the environment, the economy, our health or the way with live. Citizen science provides an opportunity for everyone to get involved in improving our understanding of alien species ecology.

Increase in trade and the global connectivity of trade networks is playing a major part in the introduction of alien species.

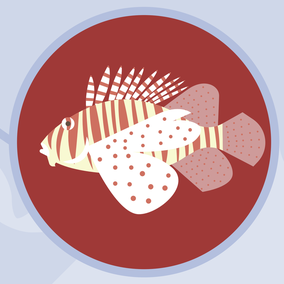
Zebra mussel *Dreissena polymorpha*

- Native range: Black, Caspian and Aral Seas
- Introduced by movement of ships, fishing equipment and recreational boats
- Alters freshwater ecosystems and clogs intake pipes of power and water treatment plants



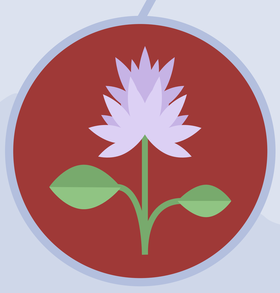
Tiger mosquito *Aedes albopictus*

- Native range: Asia
- Introduced to Europe through the used tyre trade (mosquito eggs laid within tyres)
- Vector of many pathogens, causing diseases such as dengue and yellow fever, chikungunya and Zika



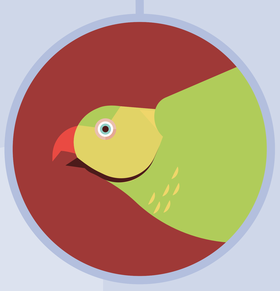
Lionfish *Pterois miles*

- Native range: Indian Ocean
- Entered the Mediterranean through the Suez Canal
- Voracious predator with venomous spines and alters marine communities



Water hyacinth *Eichhornia crassipes*

- Native range: South America
- Introduced into botanic gardens and subsequently spread into the wild
- Alters freshwater ecosystems and reduces biodiversity



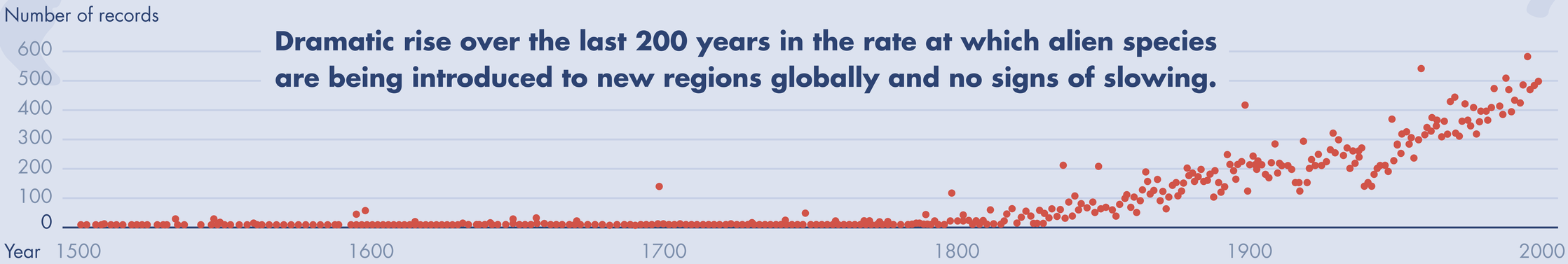
Ring-necked parakeet *Psittacula krameri*

- Native range: West Africa to lowland India
- Introduced as deliberate releases or escapees of captive birds (zoos, pets)
- Reach high numbers and threaten agriculture by feeding on fruits and crops

Asian shore crab *Hemigrapsus sanguineus*

- Native range: western Pacific Ocean
- Introduced as larvae in ballast water discharge
- Impacts on native species through competition

Dramatic rise over the last 200 years in the rate at which alien species are being introduced to new regions globally and no signs of slowing.



The **COST Actions ALIEN Challenge and Alien CSI** are research networks funded by the COST programme (European Cooperation in Science and Technology). They bring together experts from Europe and across the world to work collaboratively to compile and harmonise information about alien species within Europe and to improve data flow and knowledge on alien species through effective and high quality societal engagement, focusing on citizen science.

Participating countries within the networks

AT, BA, BE, BG, CH, CY, CZ, DE, DK, EE, EL, ES, FI, FR, HR, HU, IE, IL, IS, IT, LT, LU, ME, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, TN, TR, UK; AR, NZ, GN, UA, US, ZA.

Get involved and help stop alien invasions!

- Never deliberately release pets to live in the wild.
- Do not dump aquatic plants in the wild.
- 'Check, clean and dry' water sports equipment and clothing.
- Report any invasive alien species that you see.

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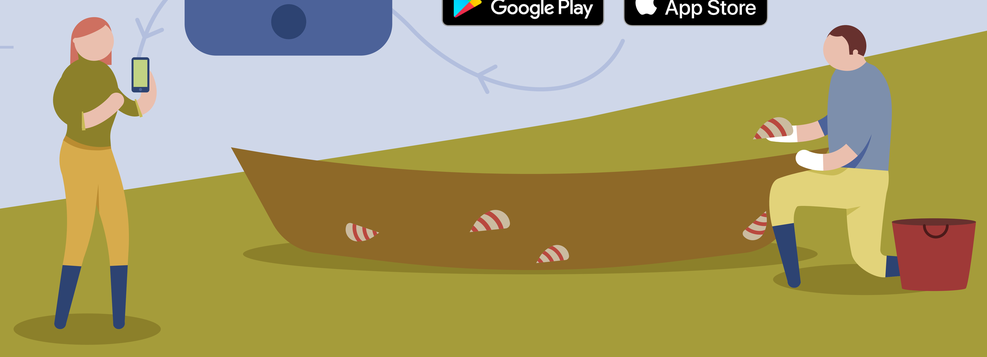

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COST (European Cooperation in Science and Technology) is a funding agency for research and innovation networks. Our Actions help connect research initiatives across Europe and enable scientists to grow their ideas by sharing them with their peers. This boosts their research, career and innovation. www.cost.eu

For more information about other citizen science projects on invasive alien species in Europe visit: **easin.jrc.ec.europa.eu/CitizenScience/Projects**