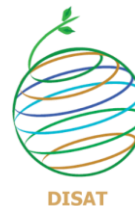


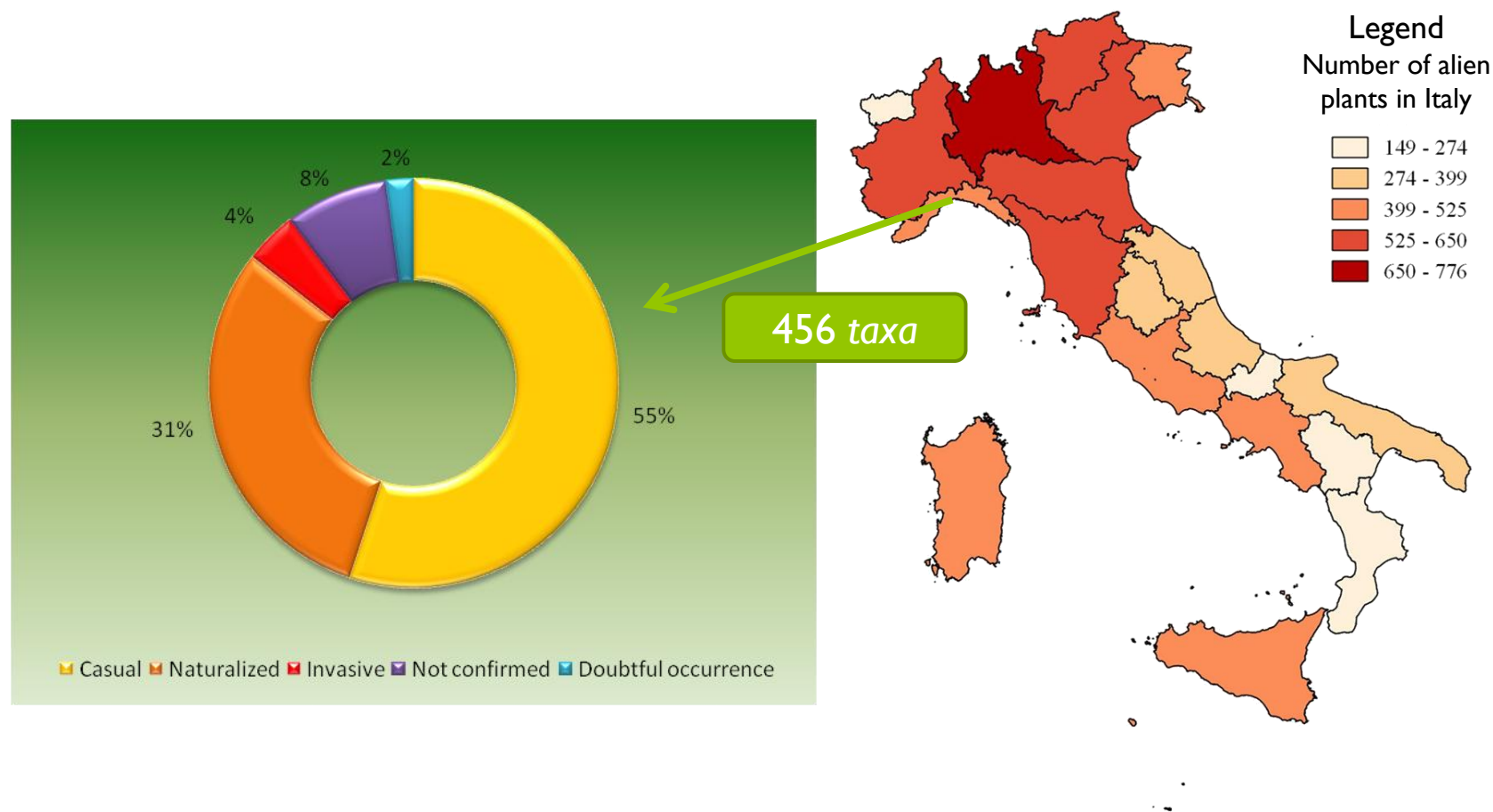
Specie vegetali esotiche di rilevanza unionale (Reg. EU 1143/2014) in Liguria

Montagnani C.¹⁻², Turcato C.¹

¹ Cesbin s.r.l., ²Università Milano Bicocca (DISAT)



Liguria: alien plants in numbers



Data from Galasso et al., 2018 Plant Biosystems

Species of Unional Concern (Reg. EU 1143/2014) in Liguria

Restrictions on the keeping, importing, selling, breeding and growing of the listed species.

Member States are also required to take measures for their **early detection and rapid eradication**, and to **manage populations** that are already widely spread in their territory.

Prevention is the priority!

Pueraria lobata (Willd.) Ohwi



Naturalized

Impatiens glandulifera Royle



Casual

(Asclepias syriaca L.)

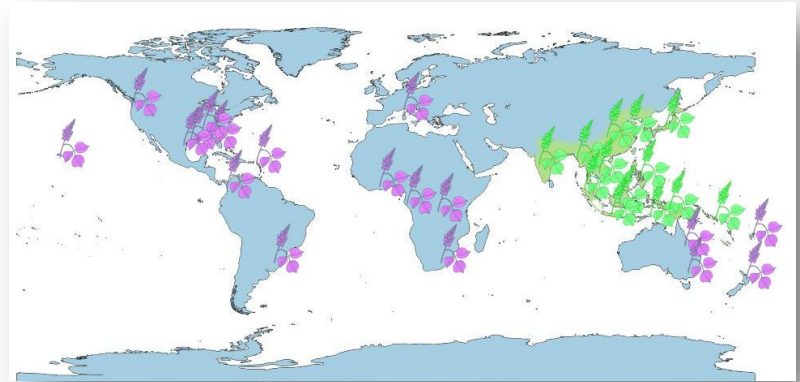


(Recently found)



Pueraria lobata “kudzu”: who is?

- It is a perennial, semi-woody climber and crawling vine of the Fabaceae family, **native to Asia**.
- Kudzu is **one of the 100 worst invasive species in the world**.
- Kudzu has been **exported all over the world** with dietary, pharmaceutical, foraging, ornamental and habitat-restoring purposes.



Kudzu: a transformer species

Examples from USA are not comforting...

Transformer species: highly destructive for ecosystems and human activities.



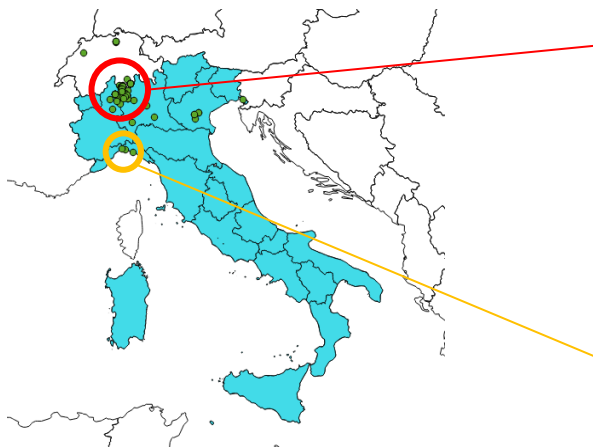
Kudzu- A destructive, fast-growing vine pervasive in the southern United States.



Biological Nitrogen
fixation
by Rhizobium

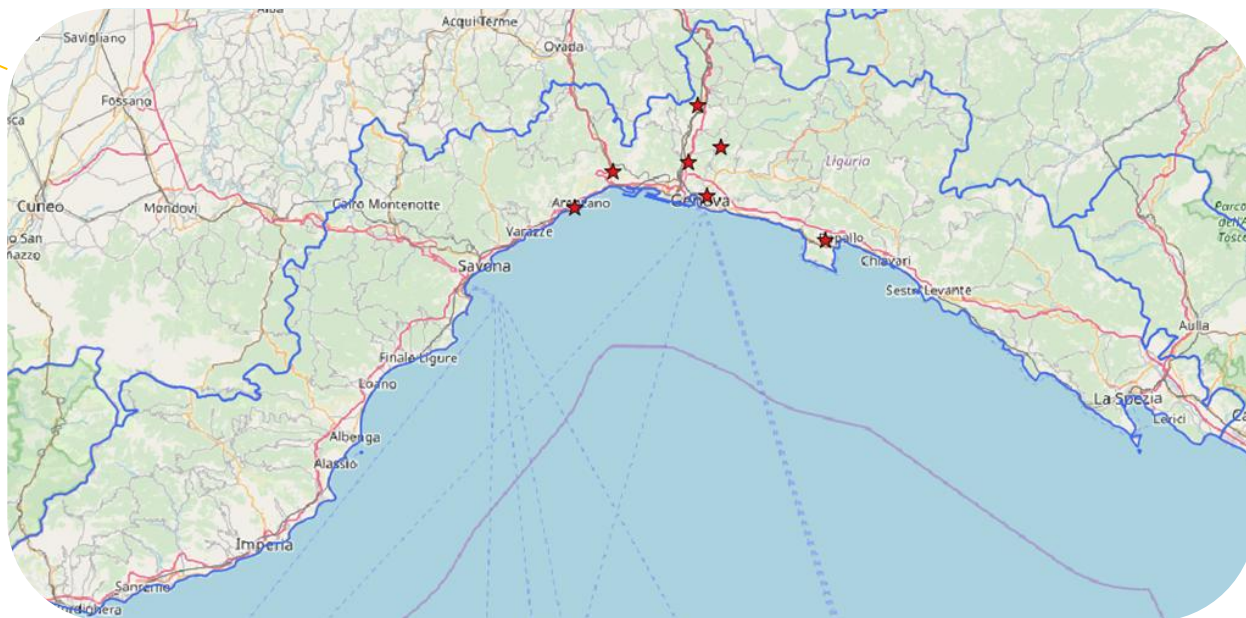


Kudzu: distribution in Europe



The European widest "hotspot" of presence of kudzu: between Italy and Switzerland (Maggiore and Lugano lakes)

Liguria: 7 sites



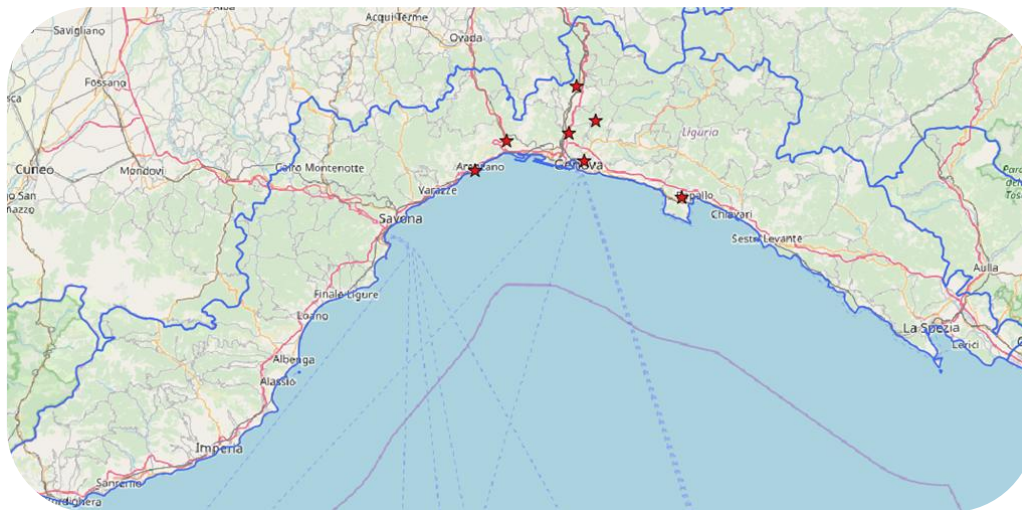
In Liguria, kudzu occurs as **cultivated plant** or **residual cultivation**, but risks related to its impact are not always prevented.

Kudzu in Liguria

Brasile, Ge-Bolzaneto (GE)

San Massimo, Rapallo (GE)

2 Unmanaged sites: kudzu is spreading



5 “Managed” sites: kudzu is under control

Mele, Ge-Voltri (GE)

Arenzano (GE)

Genova (2 sites)

Sant’Olcese (GE)

Giovi, Mignanego (GE)



Unmanaged sites

Kudzu is..

- ..spreading from an abandoned garden
- ..covering mixed forest (pines woods at the hedge of mesophilous forest)
- ..(slightly) worsening the aesthetic value of the area

San Massimo, Rapallo (GE)



Kudzu is

- ...spreading from an unmanaged hedgerow
- ...covering a *Robinia pseudoacacia* stand, electric lines and private areas
- ...invading the road
- ..concerning inhabitants



Brasile, Ge-Bolzaneto (GE)



“Managed” sites

Kudzu is..

...cultivated as “pergola vine”

..directly or indirectly controlled
thanks to periodic mowing or pruning.

But... Risks related to its spread are
unknown by sites owners or
municipalities.



Further introductions:
Involuntary release of
propagules by man or
natural dispersal



Genova,
garden/public green
area



Sant'Olcese(GE)



Giovi, Mignanego (GE)

Do we have to worry?

**At now, kudzu is not a very dangerous alien in species in Liguria,
But locally can be problematic.**

Prevention of further spread is mandatory and a priority, considering its potential impacts.

UNMANAGED/ MANAGED SITES

**If it is not monitored and properly controlled,
risk can be related to:**

Involuntary release to further sites

Biodiversity loss

Damages to electric lines and roads

Landscape aesthetic value decreasing

Increase of cost of management for the municipality.

Management & prevention options

Kudzu eradication is very hard!

Control (several interventions for many years):

- Intensive grazing
- Repeated crown cut
- Cut + chemical control



MONITORING

Prevention:

Raising awareness about good practices in managing kudzu for citizens, builders, ecc.:

- don't plant it
- if you have a plant, "take care" of it
- don't abandon cutting waste in the environment
- cut it before the fruiting

Neofita invasiva Kudzu (*Pueraria lobata*)

Caratteristiche

- Liana perenne originaria del sud-est Asia
- Neofita messianica negli Stati Uniti e in Europa (Italia e Ticino)
- Danni alle infrastrutture e alla biodiversità
- Crescita in orizzontale e in verticale fino a 30 cm al giorno
- Necessità di luce, temperature estreme elevate ed invernali miti
- Ripenso d'inverno in tubero sotterraneo (peso fino a 10 kg)
- Tasso di germinazione fino a 80% (anche dopo diversi anni)
- Inserita nella Lista nera di INFOPA

Fenologia

Crescita Foglie Fiori

Bacelli con semi Tubero Internodi

Metodi di lotta

- Lotta chimica (dove permesso)
- Lotta meccanica: pulizia dell'area, taglio del colletto dei nodi radicali, estrazione (foratura dei nodi)

Metodi di propagazione

- Metodo generativo (bacelli pulverizzati con 3-10 taglioli)
- Metodo vegetativo (sistema simile alla fragola)

Distribuzione in Ticino

Locazione Sottocorona

2009-2017

- Aumento delle focolai in numero e in superficie
- 5 focolai eradicati
- Superficie 2017: 10-1500 m² per focolaio (in totale circa 20.000 m²)
- 10 focolai con fiori

Primavera 2018: 47 focolai

Importante: Monitoraggio continuo per diversi anni!

Neue segnalazioni: <https://spazi.neofite.it/> o su info@aliem.it

Informazioni supplementari: www.italyredlist.it

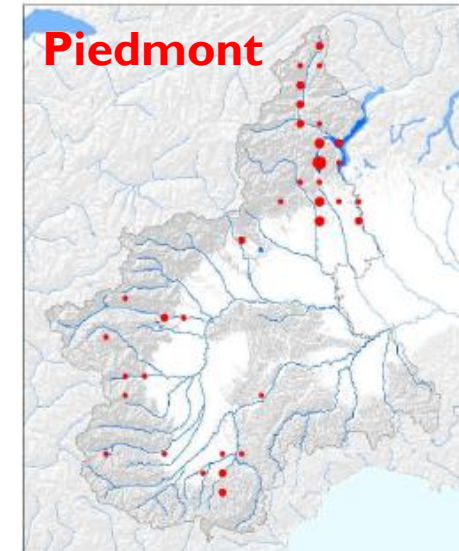
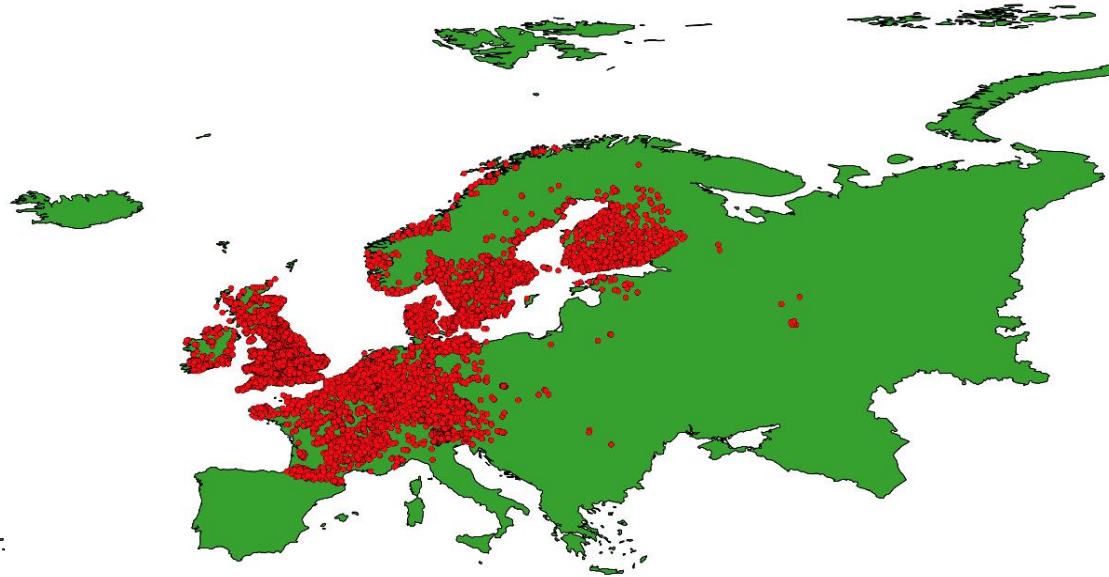
Contatti: amministrazione cantonale, Gruppo lavoro neofite, Sezione forestale

Impatiens glandulifera: who is?

- ▶ It is **an annual herbaceous plant** of the Balsaminaceae family.
- ▶ **Native to Himalaya**, it has been exported outside its native range as ornamental plant.
- ▶ It colonizes **river banks, road verges**, usually wet and disturbed soils. It is a several threat to mountain riverine habitats.
- ▶ Tends to create **monospecific stands**, displacing native species and negatively affecting ecosystems.

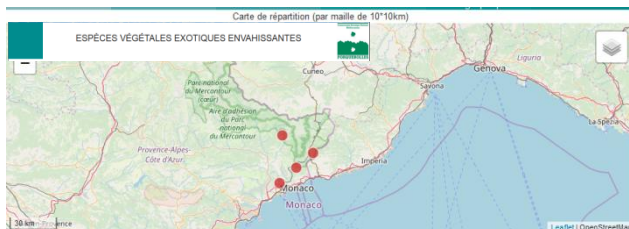


Impatiens glandulifera in Liguria



Gruppo di Lavoro Specie Esotiche della Regione Piemonte (a cura del), 2013.

LIGURIA?



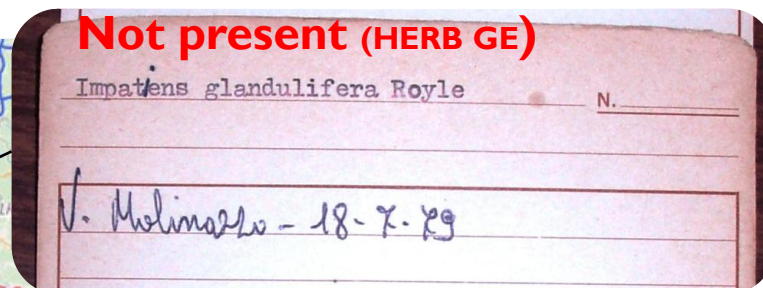
France – PACA
(e.g. Breil sur Roya)

Tuscany
Abetone (PT)
Lazzeri V. & Sammartino F., 2016.
Italian Botanist I: 17-37

Emilia-Romagna
Costabona di Villa Minozzo (RE)
Alessandrini A., 2015. Acta Plantarum Notes, 3

I. glandulifera: casual or not confirmed in Liguria..at now!

Piedmont: Bagnasco (CN)
Turcato C., 2017



I. balfourii

France: Roya Valley
CBN Med, GBIF

***I. glandulifera* has not been recently confirmed in Liguria.**
Anyway **two areas have to be further checked and monitored** in order to prevent its spread from Piedmont but especially from France.

Asclepias syriaca: who is?

- ▶ It is **a perennial herbaceous plant** of the Asclepiadaceae family.
- ▶ **Native to North America** it has been exported outside its native range for a lot of purposes (ornamental, paper, textile, honey etc. plant).
- ▶ It colonizes **river banks, road verges, fields, open habitats**; it suffers long **period of drought**.
- ▶ Impacts are related to changes in floral native community and loss of species richness



Asclepias syriaca in Liguria: new entry

A. syriaca has been observed in Tiglieto (GE) for several years (Calbi M., *in verbis*).

Until now nobody saw the plant flowering.

2018: field observation and talk with Badia di Tiglieto personnel permitted to understand that likely the **plant is uprooted and mowed almost every year (not specific control, just “agricultural” management)**.

***A. syrica* has to be considered a causal neophyte in Liguria.**



Management & prevention options

Tiglieto is in a protected area (ZSC Pian della Badia – Natura 2000 Network).

There are further suitable habitats for *A. syriaca* in the surroundings and **it could spread into new areas.**

Control measures are necessary:

Monitoring the plant before agricultural activities in order to understand its real abundance and cycle

Prevent its spread ensuring **systematic eradication practices.**



©2003, Gary Fewless



Reg. EU 1143/2014 update: who's next?

During the next months, the approval of a third list of species of Unional concern is going to be discussed by the European Commission.

Potentially new species occurring in Liguria will become species of Unional concern:



► *Ailanthus altissima* (INV)

► *Cardiospermum grandiflorum*
(NAT)

► *Acacia saligna* (CAS..?)



Conclusions

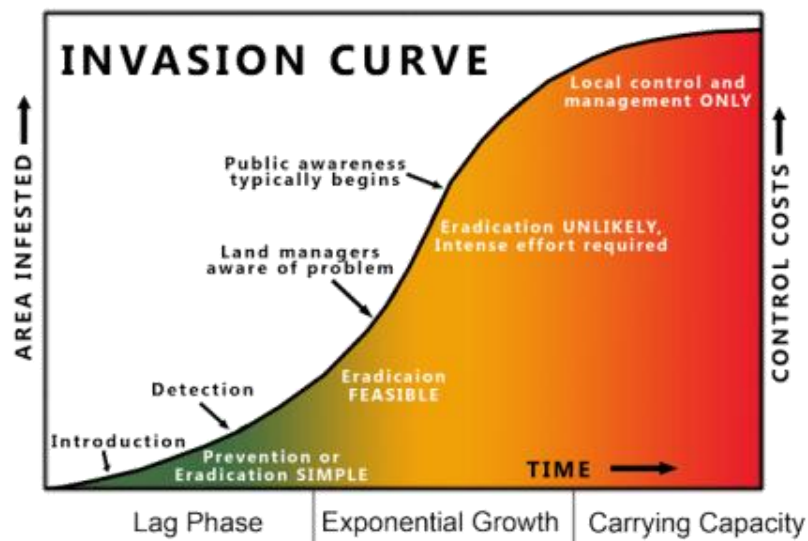
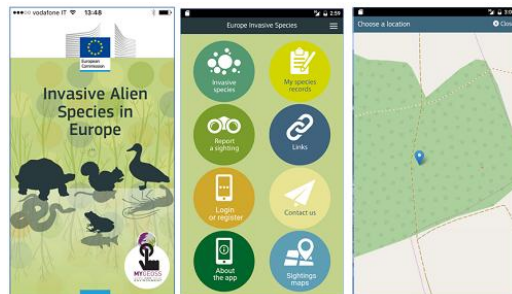
Few species of unional concern occur in Liguria.

At now risks related to their presence are limited, but the conditions can rapidly change.

Measures has to be adopted to control *Pueraria lobata* and citizens have to be actively involved in its correct management

For all species monitoring is fundamental... early detection and rapid eradication are the keys to prevent further spread and the arrival of new invasive species.

**INVASIVE ALIEN SPECIES:
KEEP CALM
AND
FOLLOW THE
CODES OF CONDUCT**



Authors thank Dr. Simonetta Peccenini.

THANKS FOR YOUR ATTENTION!

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