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

Montagnani C.\textsuperscript{1,2}, Turcato C.\textsuperscript{1}

\textsuperscript{1}Cesbin s.r.l., \textsuperscript{2}Università Milano Bicocca (DISAT)
Liguria: alien plants in numbers

Legend
Number of alien plants in Italy
- 149 - 274
- 274 - 399
- 399 - 525
- 525 - 650
- 650 - 776

456 taxa

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

Impatiens glandulifera Royle

(Asclepias syriaca L.)

Naturalized

Casual

(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.
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

2 Unmanaged sites: kudzu is spreading

Brasile, Ge-Bolzaneto (GE)  San Massimo, Rapallo (GE)

5 "Managed "sites: kudzu is under control

Mele, Ge-Voltri (GE)  Arenzano (GE)  Genova (2 sites)  Sant’Olcese(GE)  Giovi, Mignanego (GE)
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

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

Prevention:
Raising awareness about good practices in managing kudzu for citizens, builders, etc.:
- 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
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 severe threat to mountain riverine habitats.
- Tends to create monospecific stands, displacing native species and negatively affecting ecosystems.
Impatiens glandulifera in Liguria

France – PACA
(e.g. Breil sur Roya)

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

Emilia-Romagna
Costabona di Villa Minozzo (RE)

Tuscany
Abetone (PT)
Italian Botanist 1: 17-37

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

Piedmont: Bagnasco (CN)
Turcato C., 2017

Millesimo (SV), 1997: Not recently confirmed

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**.
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.
Authors thank Dr. Simonetta Peccenini.

THANKS FOR YOUR ATTENTION!

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

Montagnani C.\textsuperscript{1,2}, Turcato C.\textsuperscript{1}

\textsuperscript{1} Cesbin s.r.l., \textsuperscript{2}Università Milano Bicocca (DISAT)