MUNI SCI Ústav botaniky a zoologie

MENDELU Agronomická fakulta

Water4All Water security for the planet

Development of technology for growing seeds of hemiparasitic plants and its application in reducing invasive species in lowland meadow wetlands

WETLAND HEMIPARASITE **5/2023-3/2026**

T A Č R

This project is co-financed with support of the Technology Agency of the Czech Republic and the Ministry of the Environment as part of the Programme Environment for Life.

www.tacr.cz www.mzp.cz

Introduction

- **THE ISSUE**: wetland degradation in agricultural landscapes

  (high eutrophication, poor water regime, lack of appropriate care, …)

! → **overgrowth** → loss of biodiversity, original communities and **ecosystem services**

pasture management, mowing

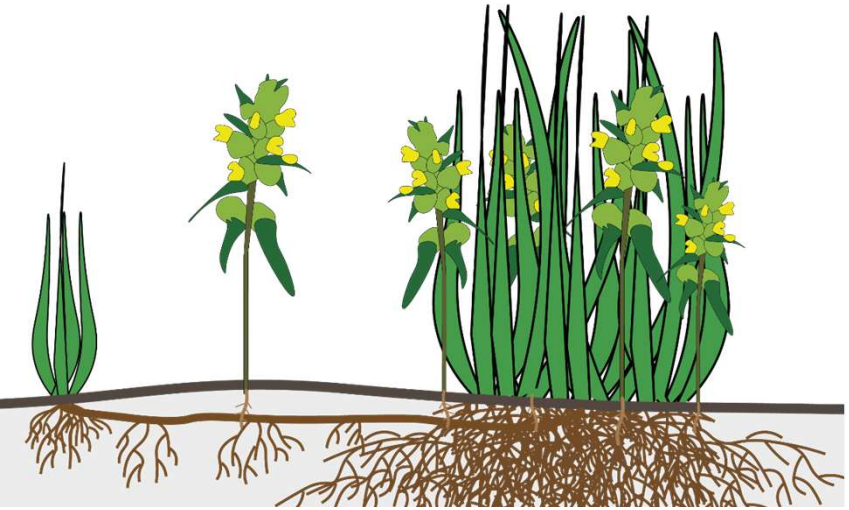
- **BUT**: competitively strong invasive species need permanent and intensive care (demanding, expensive)

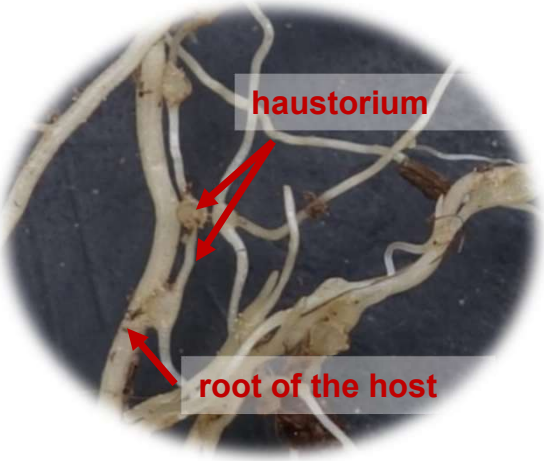
Solidago canadensis / gigantea © Pavel Novák

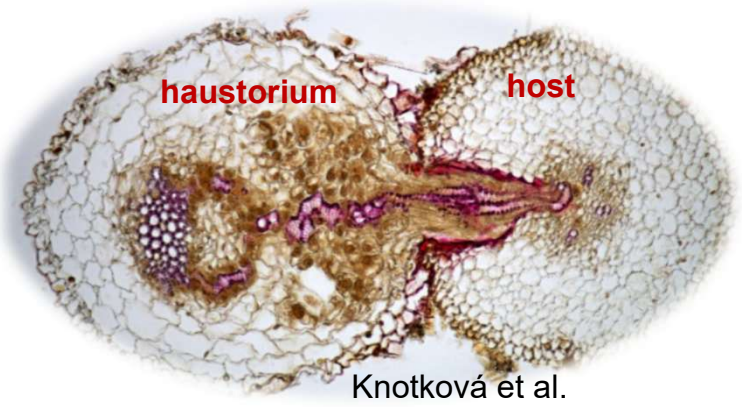
Symphyotrichum novi-belgii © Pavel Novák

Introduction

- high potential for the use of **hemiparasitic plants:**
  - green plants – they photosynthesize
  - root parasites – haustorium
  - extraction of water, minerals and assimilates from the host
  - they parasitize multiple host species





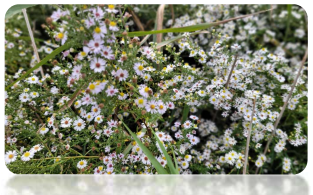


Knotková et al.

Methods

- **sowing of hemiparasites** (in combination with mowing and grazing)
  - development of **seed cultivation technology**
  - application in **natural conditions**
  - optimising **the best management**

- monitoring **of invasive plants**
  - species
  - areas



- monitoring **of bioindicative groups**
  - plants
  - arthropods (mainly beetles and butterflies)

Potential contributions to the TAP Action

- monitoring of invasive plant species (+ a management plan)
- sowing of the hemiparasitic plants
- monitoring of the effects of management (on plants and arthropods)
- sharing of data and examples of good practices
- **transfer of acquired knowledge**
  - methodology of the **technology of obtaining seeds**
  - methodology for **hemiparasite application**

Thank you for your attention

and we are looking forward to working with you!

This project is co-financed with support of the Technology Agency of the Czech Republic and the Ministry of the Environment as part of the Programme Environment for Life.

www.tacr.cz www.mzp.cz

ENVIROP, Department of Botany and Zoology
Faculty of Sciences, Masaryk University
Brno, Czech Republic

https://www.envirop.cz
kotasova.adamkova@sci.muni.cz