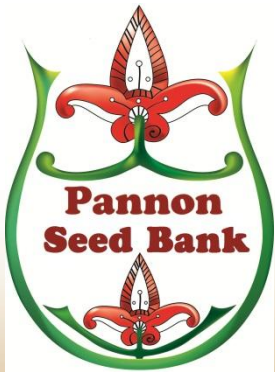


Collecting results of the Pannonian Seed Bank Project for the long-term ex situ conservation of Hungarian vascular wild plants

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**GENETIC RESOURCES CONSERVATION –
SCIENTIFIC AND SOCIAL CHALLENGES**

Karpacz, 25th June 2015

www.pannonseedbank.hu



„The seed sowing”

- 2004 – BZBG starts to work on concept of Pannonian Seed Bank
- 2006 – concept is ready. BZBG takes the first steps (applying for permissions, raising fund) to establish PSB
- 2008 – Coordinated by the Ministry of Environment a consortium of four partners applies for a LIFE+ support with a modified concept
- 2009 – LIFE+ application is successful in 2nd round with three partners

Stimulated by and simultaneously with ENSCONET project activity

Authority is unwilling to give the permission for collecting protected species

Ministry starts to ask more and more information about the PSB concept, and recognizing the importance of it, finally takes over the PSB project



Introduction I

Main goal : Establishment of a gene bank for the long-term ex-situ conservation of **wild vascular plants** of Pannon Biogeographical Region as well as PSBP assumed collecting and storage of appr. 50% of the Hungarian native vascular flora

Construction: LIFE+ Biodiversity category

- Duration: 01/01/2010- 31/12/2014
- Budget: 969 090 €, EC support intensity 49,78%, co-financed by the Hungarian Government



Beneficiaries: Centre for Plant Diversity (CPD), Tápiószele;
National Botanic Gardens, Institute of Ecology and Botany of HAS (NBG IEB HAS), Vácraót;
Aggtelek National Park Directorate (ANPD), Jósvalő

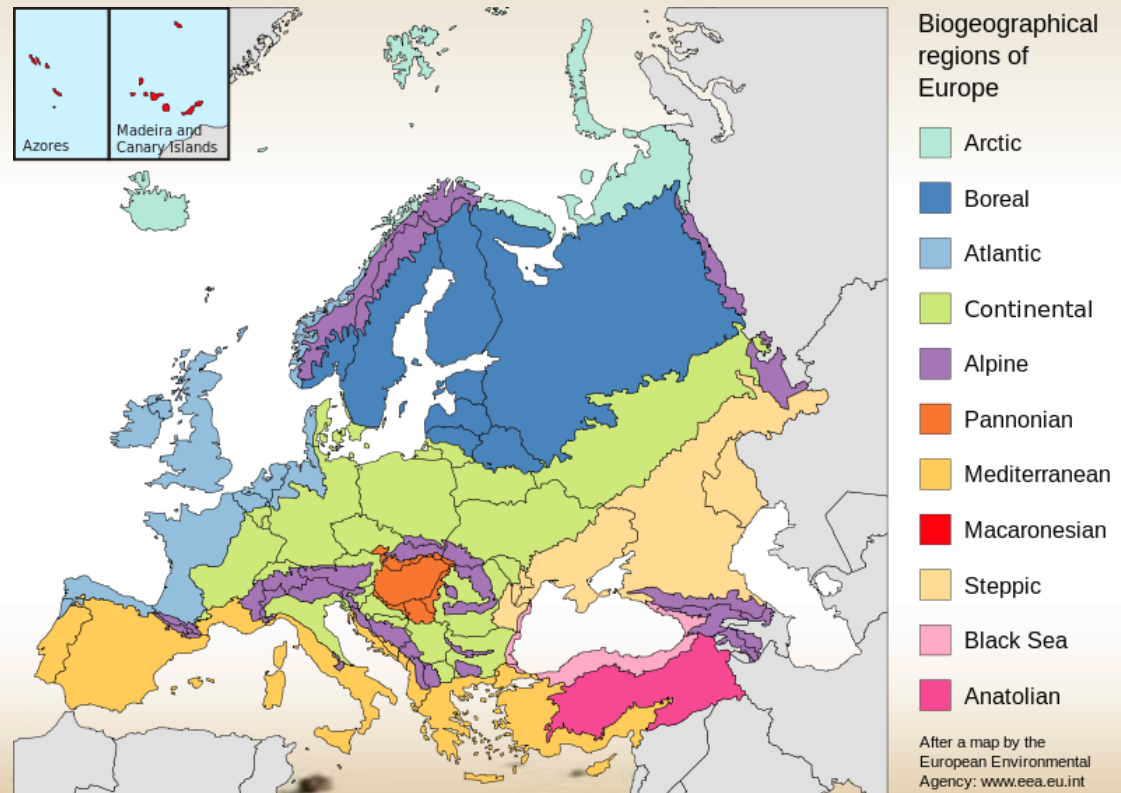


Introduction II

Project aims: Collecting and long term storing seeds of at least 800 wild plant species of Pannon biogeographical region suitable for storing without considerable disturbance of original habitats in order to assist and complement in situ species conservation activities.

Long-term objective:
Collecting and storing of
each wild plant species
of Pannon

Biogeographical Region
suitable for storing by
seed banking technology



Capacity building

- Base store capacity increasing in Tápiószele (CPD)
- Building active store capacity in Vácrátót (IES HAS)
- Building duplicate store capacity in an artificial cave (mine tunnel) in Mountain Esztramos (ANPD)

Collecting, testing, storing and data basing:

- collecting and conservation at least **1200 accessions of 800 native species of Hungarian vascular flora** until the end of 2014



Reintroduction:

- Ten characteristic species of open sand grassland (2 grasses and 8 herbs) are reintroduced into six old-fields of altogether two hectares during four (year of coll. + 3 years), until the end of the project

Dissemination: exhibitions, publications, etc.



Arrangements

- Unified, determined principles

1. Strategy for seed collection

- **Aims:** which species to be collected and on what basis, how the genetic diversity of the Hungarian flora will be presented, how and when to plan the collection works, which are the factors that can influence the success of seed collection and how to handle these risks.

2. Seed collecting manual

- **Aims:** provide general guidelines and practical details for the seed collectors

3. Training of collectors

- **Aims:** increase collectors knowledge on seed collecting for seed banking

Principles: never endanger populations with collecting;

- collected seed amount never could exceed 20 (10) % of the total yearly seed amount of the population



Listing of species

Priorities

Storability:

orthodox, presumably orthodox species, species with no data

Nature conservation value:

protected, strictly protected species, pannon endemisms, pannon sub-endemisms

Ecological importance:

Non-protected environmental indicator species, character species of significant associations, specialists (species indicating special habitats)

Economic importance:

Drought tolerant species, dominant species of forest associations and other associations with high biomass production, rare weed species in the Pannonian biogeographical region.

1841 targeted taxa listed preliminary



Sampling instructions

- size of an item: min. 5000 seeds
- „amap” individuals to be sampled
- choosing representative sampling method


Documentation

- Standard data collecting sheet
- Appropriate identification of taxon
- Digital photographs for identification check (no herbarium)

Seed sample management

- Pre-cleaning and temporary storage before transfer

3. sz. melléklet Pannon Magbank Projekt (LIFE08/NAT/H/000288, HUSEEDBANK)

 Gyűjtési adatlap Elérési kód:

A kitöltött rész minden adatát a leadott a magtételen is kötelező feltüntetni!

Gyűjtés napja (ééééhhnn): Gyűjtési sorszám²:

Gyűjtő(k) neve:

Faj neve³:
(nemzetség, faj, alfaj, változat, leírás)

Gyűjtés helye⁴:

Földrajzi szélesség⁵: Alapkőzet (ha meghatározható):

Földrajzi hosszúság⁵: Talaj(típus):

Tengerszint feletti magasság (m): Fényképfelvétel (4a)⁶:

Növényzettípus (Á-NÉR2007 kód):

Jellemző fajok:

Mintavételi módszer⁷: 1) Random 2) Egy vonal mentén 3) Több párhuzamos vonal mentén
4) Szabályos háló 5) Populáció közepe 6) Populáció széle

Begyűjtött magtétel becsült mennyisége (darabszám)⁷:
1) <100 2) 100-500 3) 500-1000 4) 1000-2000 5) 2000-5000 6) >5000

Egedszám becslés a növényfaj gyűjtés helyén élő állományjára vonatkozóan⁶:
1) 1 egyed 2) 2-10 3) 11-100 4) 100-1000 5) 1000-10000 6) >10000

A magtétel begyűjtéséhez ténylegesen igénybe vett egyedek száma⁷:
1) 1 egyed 2) 2-10 3) 11-50 4) 50-100 5) >100

A tényleges gyűjtésben érintett példányok mekkora területen belül fordultak elő⁷:
1) <1 m² 2) 1-4 m² 3) 4-10 m² 4) 10-<100 m² 5) >100 m²

Időjárás a gyűjtés idején:

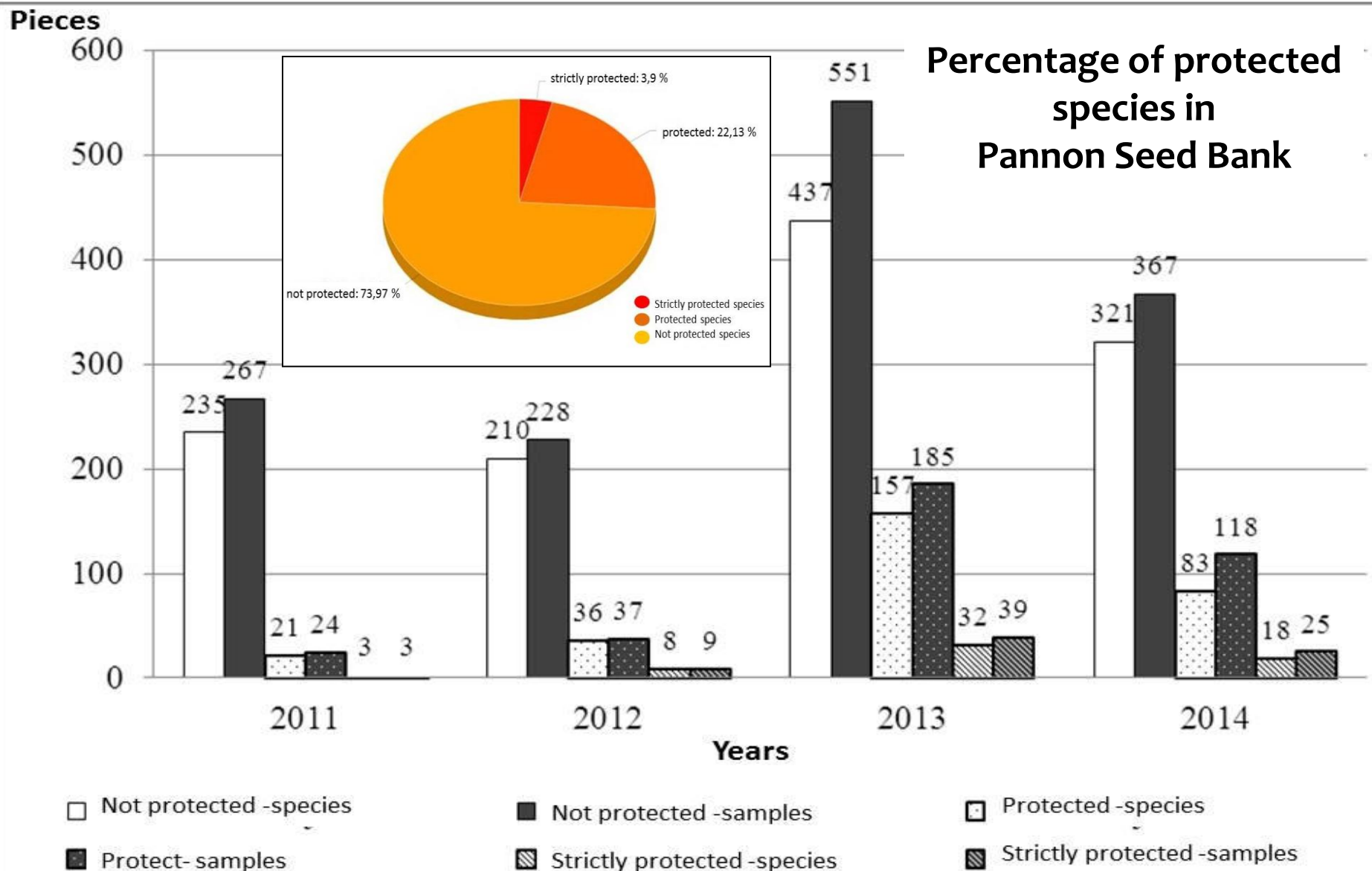
Egyéb megjegyzések (pl. fenofázis):

* A megjelölt kivételt húzza alá vagy karkázza be!
1. A központtól ki, ill. a gyűjtő nevéből és egy futószámából. Pl.: kovács001
2. Az sz. napj. gyűjtés sorszáma szerint 001, 002, stb.
3. Kérjük nyomtatott kiadvány kiadását, lehetőség az új Magyar Földrajzi név szerint!
4. Legközelebbi település neve + a külterület földrajzi név(nevek) megadása hierarchikusan, lehetőség szerint a legfontosabb felosztásig. Pl.: Budaörs, Budaörs-hegység, Káposztás.
5. Földrajzi koordináták megadása: lehetőség szerint a WGS84 rendszer szerint tizedes fok formájában (dd.ddddd°)
6. A fényképek elnevezése ékezetek nélkül: gyűjtő neve, fajnév, gyűjtési sorszám, fényképsorszám. Pl.: nagy_dacylis_glomerata_001_01, nagy_dacylis_glomerata_001_02 stb.)
7. Füvek, sósók esetén egy fücszó, vagy egy szomszék tekinthető egy egyednek.

Results

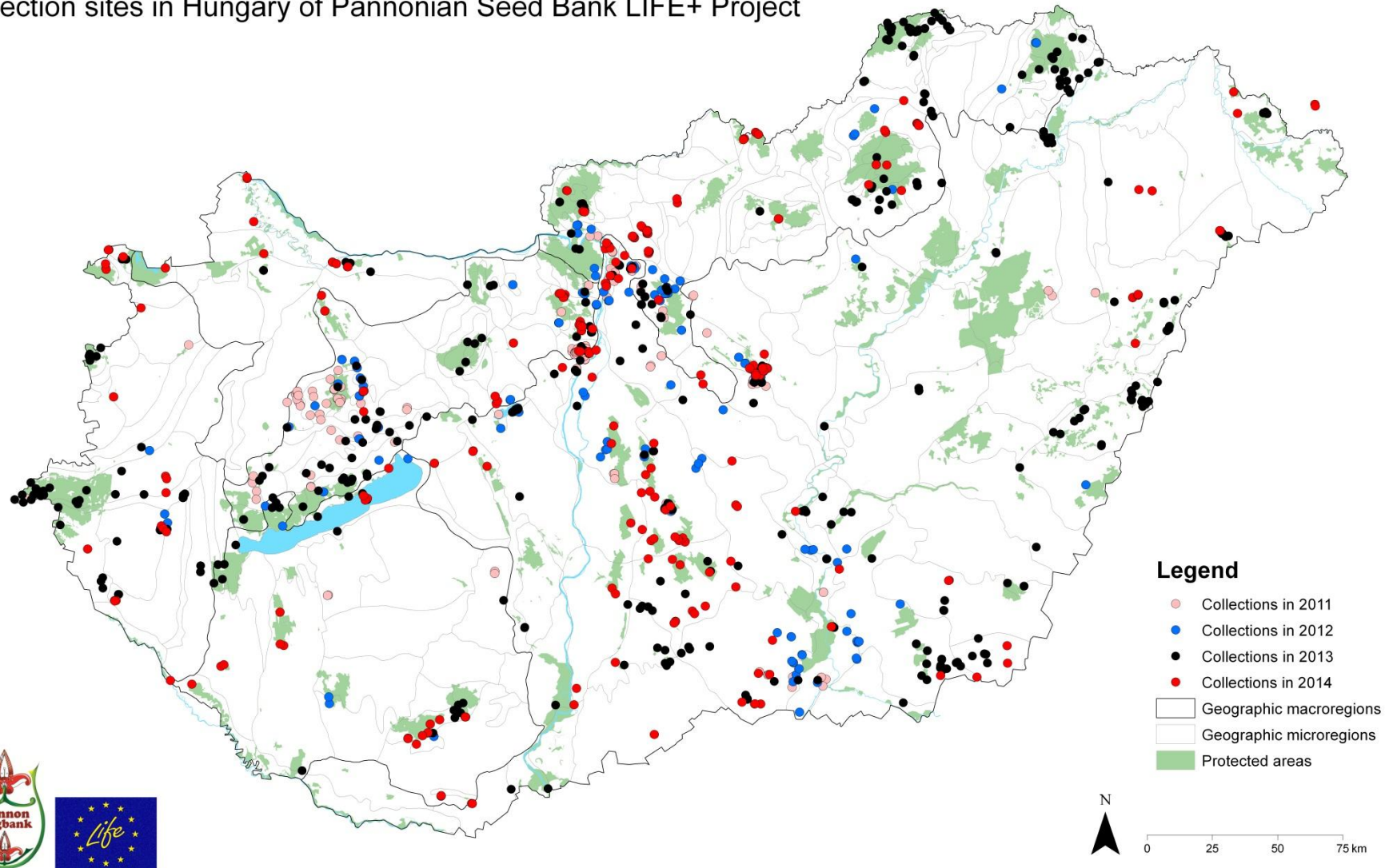


- collected and conserved **1853 accessions of 910 species** until the end of 2014 (of 1841 targeted taxa)
- conserved 69 accessions of 42 taxa strictly protected
- conserved 378 accessions of 210 taxa protected
- **38% of Hungarian native vascular flora is conserved** at least by one accession
- **more than 60% of strictly protected and more than 40% of protected taxa of Hungarian native vascular flora is conserved** at least by one accession



Geographical coverage

Collection sites in Hungary of Pannonian Seed Bank LIFE+ Project

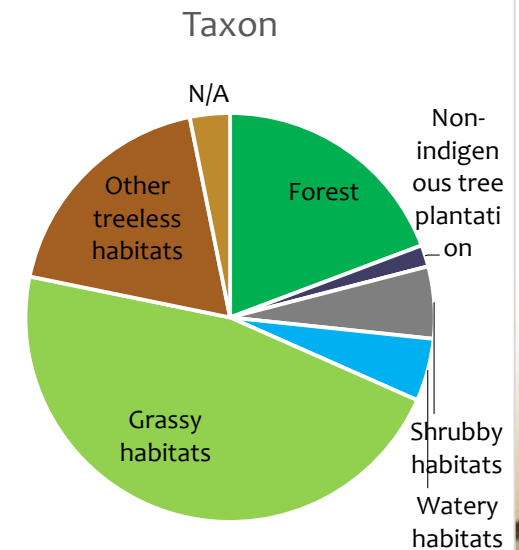
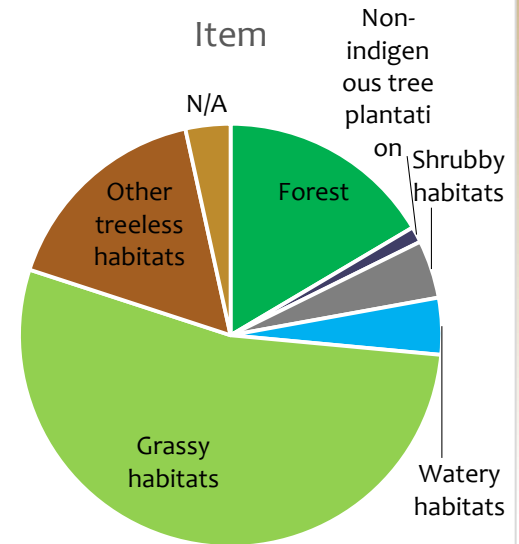
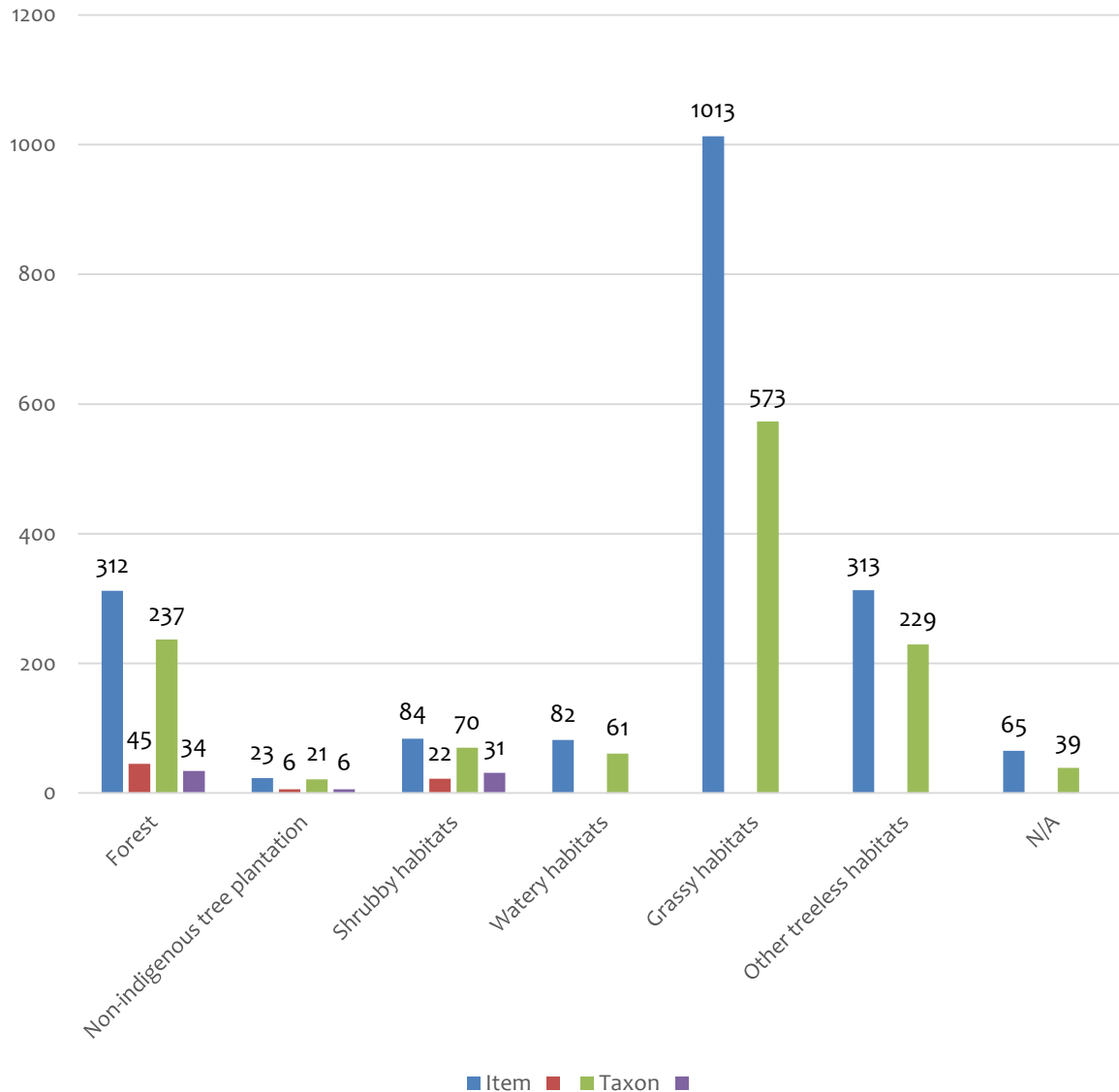


Life+ Pannon Magbank Projekt

Ref.: LIFE08/NAT/H/000288

Results 3.

Distribution of collections sorted by main habitat types

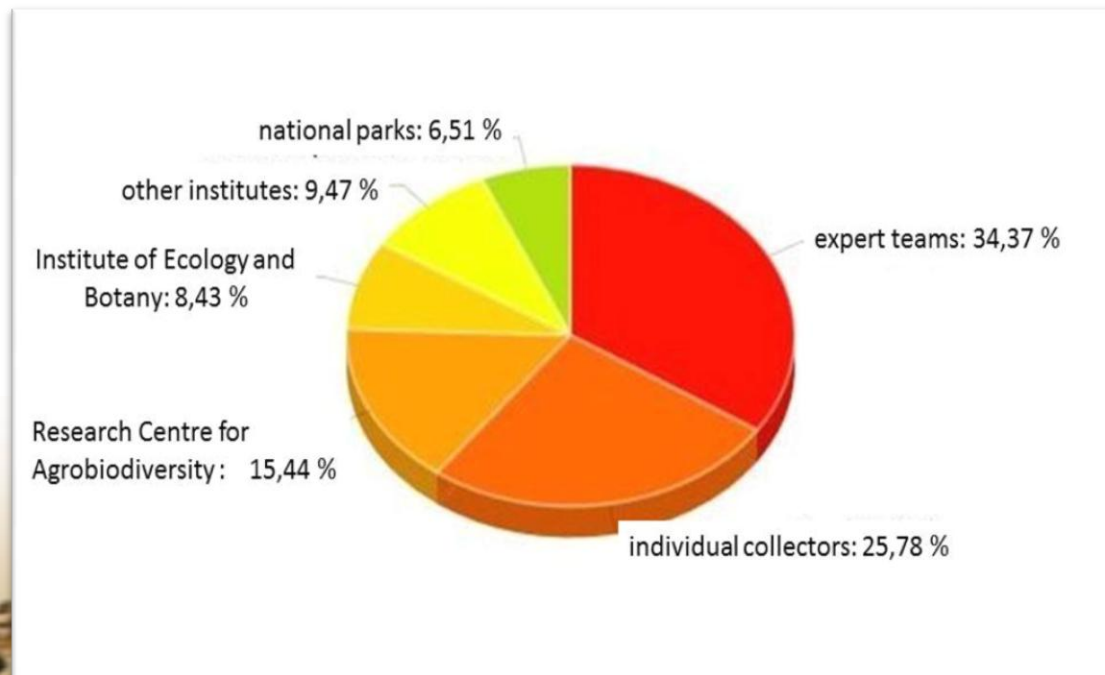


Following people were involved in seed collecting during the project:

- colleagues of 9 national park directorates
- 12 experts from higher education and research institutes
- more than 30 individual collectors with botanical expertise
- beneficiaries

Distribution of collected seed samples based on collectors' feature/type

(Expert teams worked only in 2013-14 with two experts and 1-3 assistants; most effective method)



Hot or cold , rainy and/or
windy weather, wet or drought
period/year, thorny plants,
moschitos, dangerous places
and...

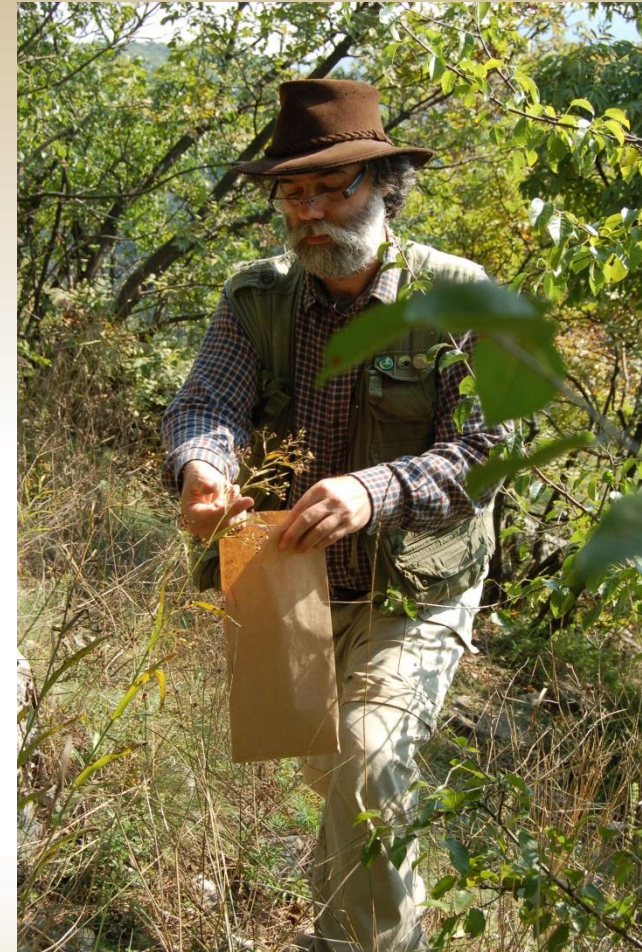
Collectors' difficulties



... strong and permanent concurrency... ☺

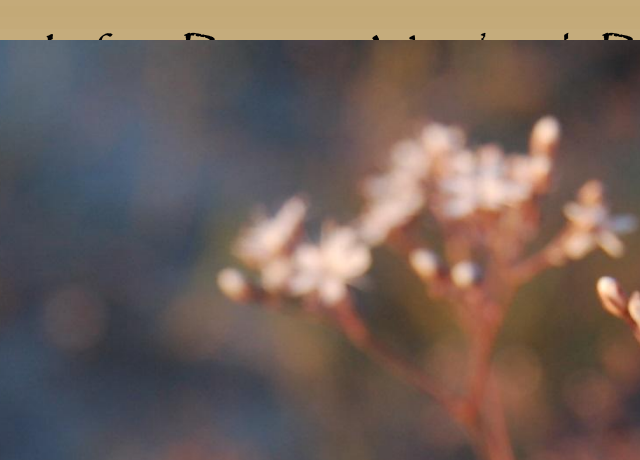


**Thank
You
for
your
attention!**



Ferenc KECSKÉS





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