

Fylogeografie

Studuje pomocí **molekulárních markerů** příbuznost mezi jedinci jednoho druhu v různých částech areálu

Historie druhu v geografickém kontextu

Další pohled na migraci, relikty refugia, taxonomii, původnost...

Často kombinace s klimatickými a migračními modely i paleoekologickými daty

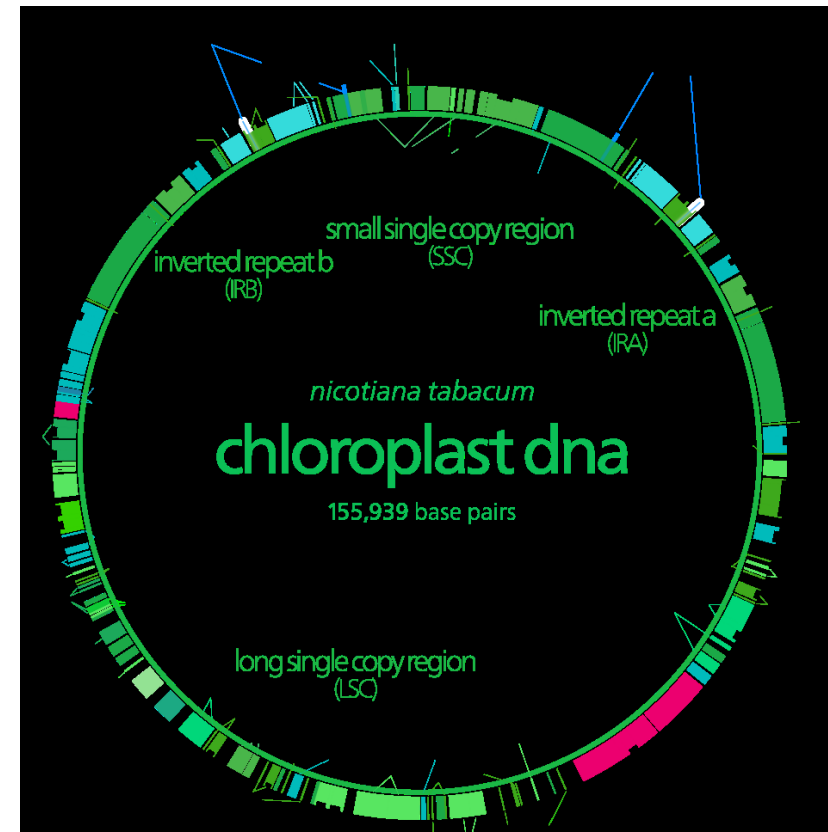
Fylogeografie

- **Časté otázky**

- Glaciální refugia současné bioty
- Migrační koridory
- Původ izolovaných lokalit (relikty vs. přirozené výsadky)
- Změny genomu variability v prostoru a čase
- Vliv disperzních vlastností taxonu na genetickou strukturu

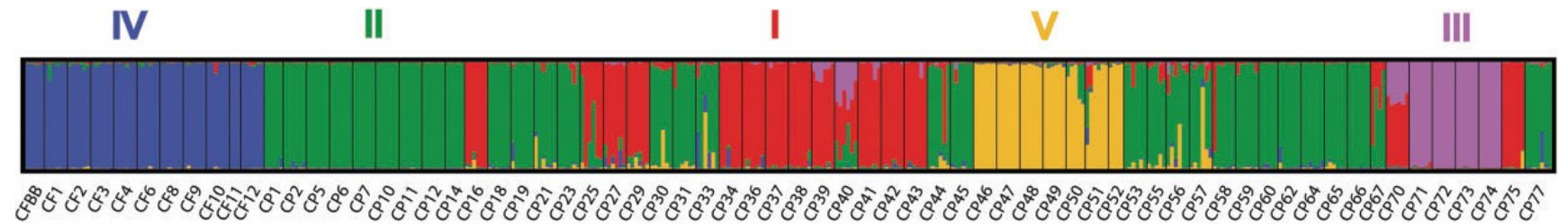
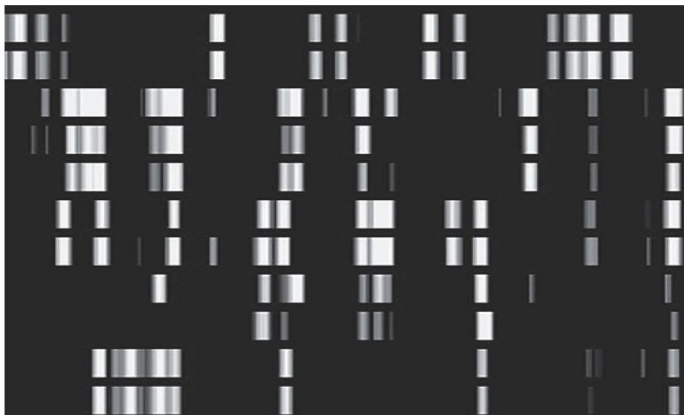
Metody

- Organelární DNA (hlavně chloroplastová cpDNA - haplotyp)
 - maternální dedičnost
 - bez rekombinace
 - variabilita vzniká jen mutacemi (bodové, délkové)
 - nejčastěji zkoumány nekódující úseky
- Jaderná DNA

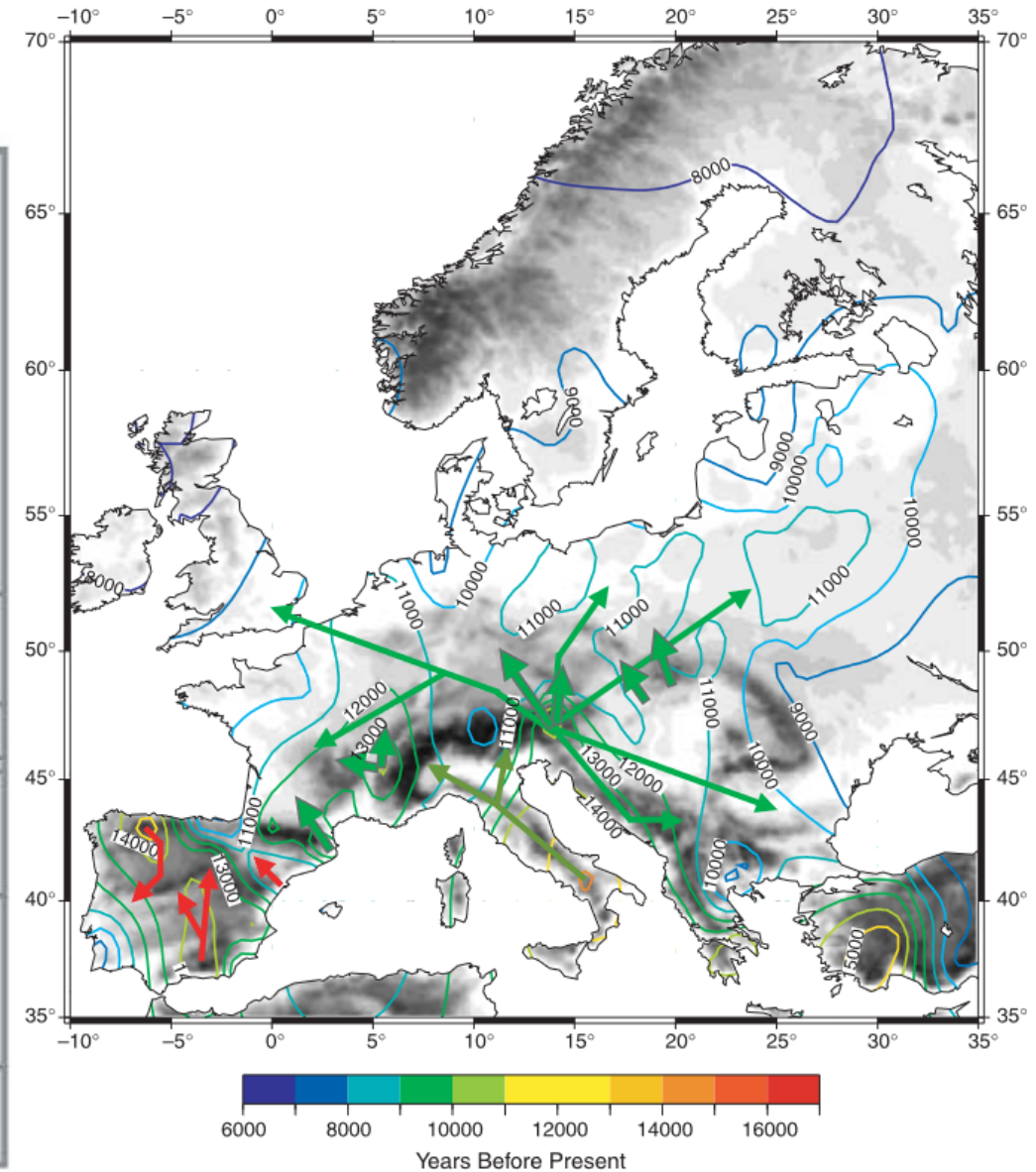
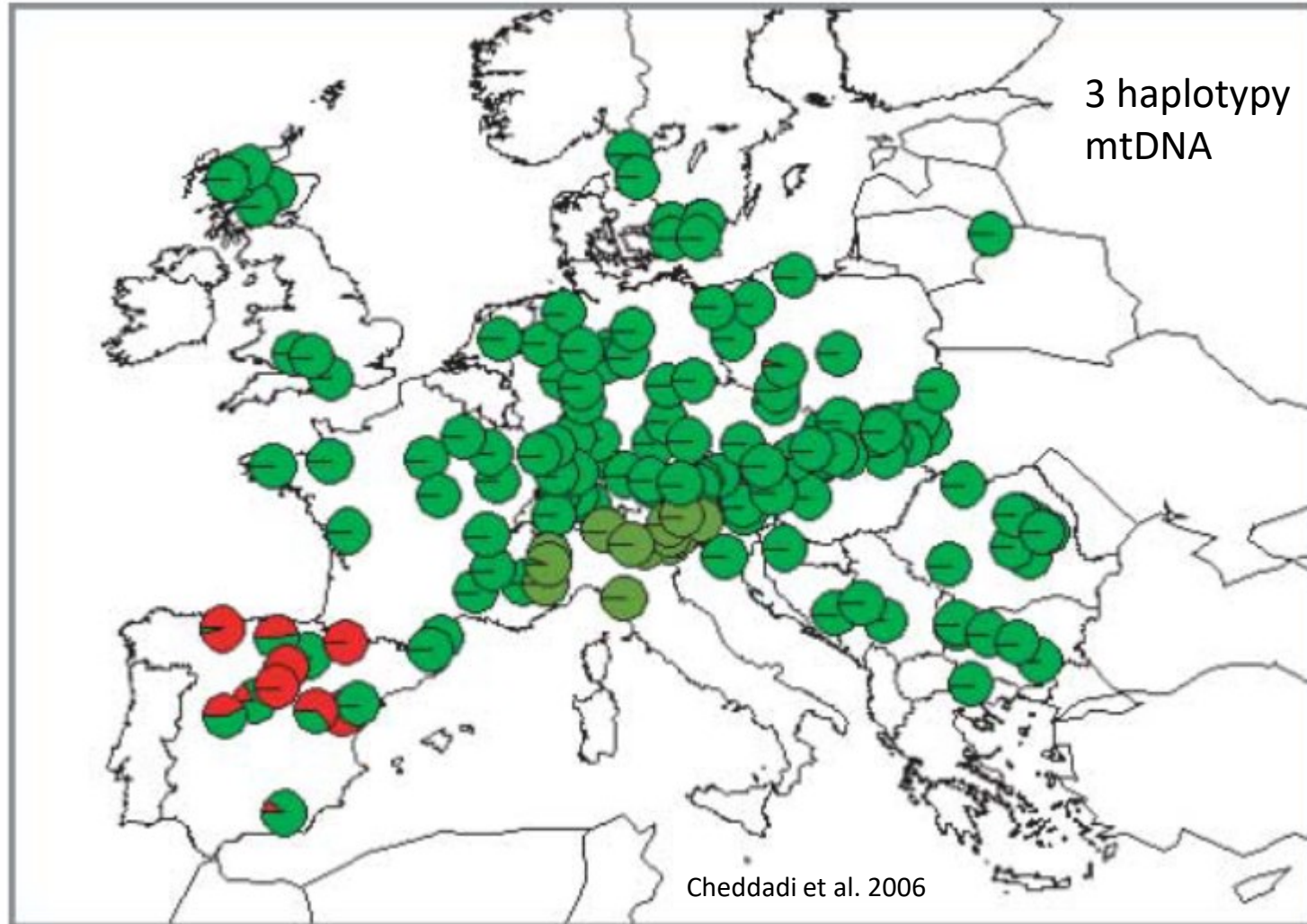


Metody

- **AFLP** – štěpení **celkové DNA** restričním enzymem a porovnání fragmentů
 - Amplified Fragment Length Polymorphism
 - **DW index** – zastoupeních vzácných fragmentů, míra odlišnosti populace od ostatních
- **RFLP** – délková variabilita fragmentů **cpDNA** po štěpení restričním enzymem
 - Restriction fragment length polymorphism
- **Mikrosatelity** – krátké repetitivně sekvence v **cpDNA** a jejich variabilita
- **Haplotypová variabilita** – nekódující úseky **cpDNA** a jejich variabilita



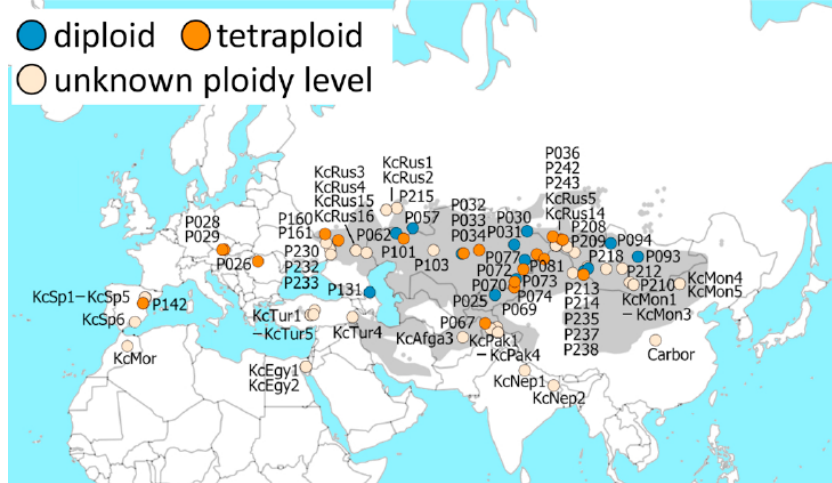
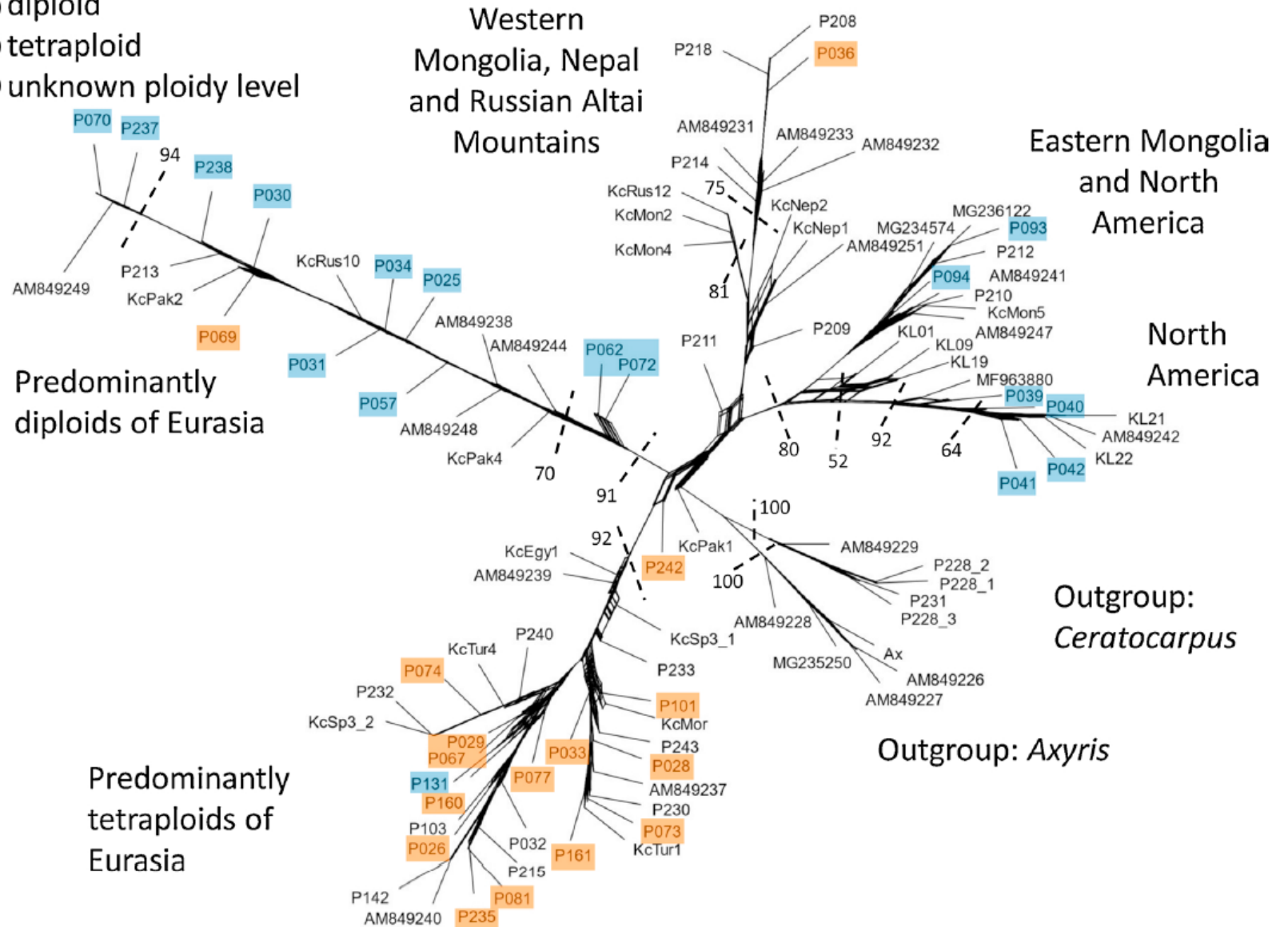
Pinus sylvestris



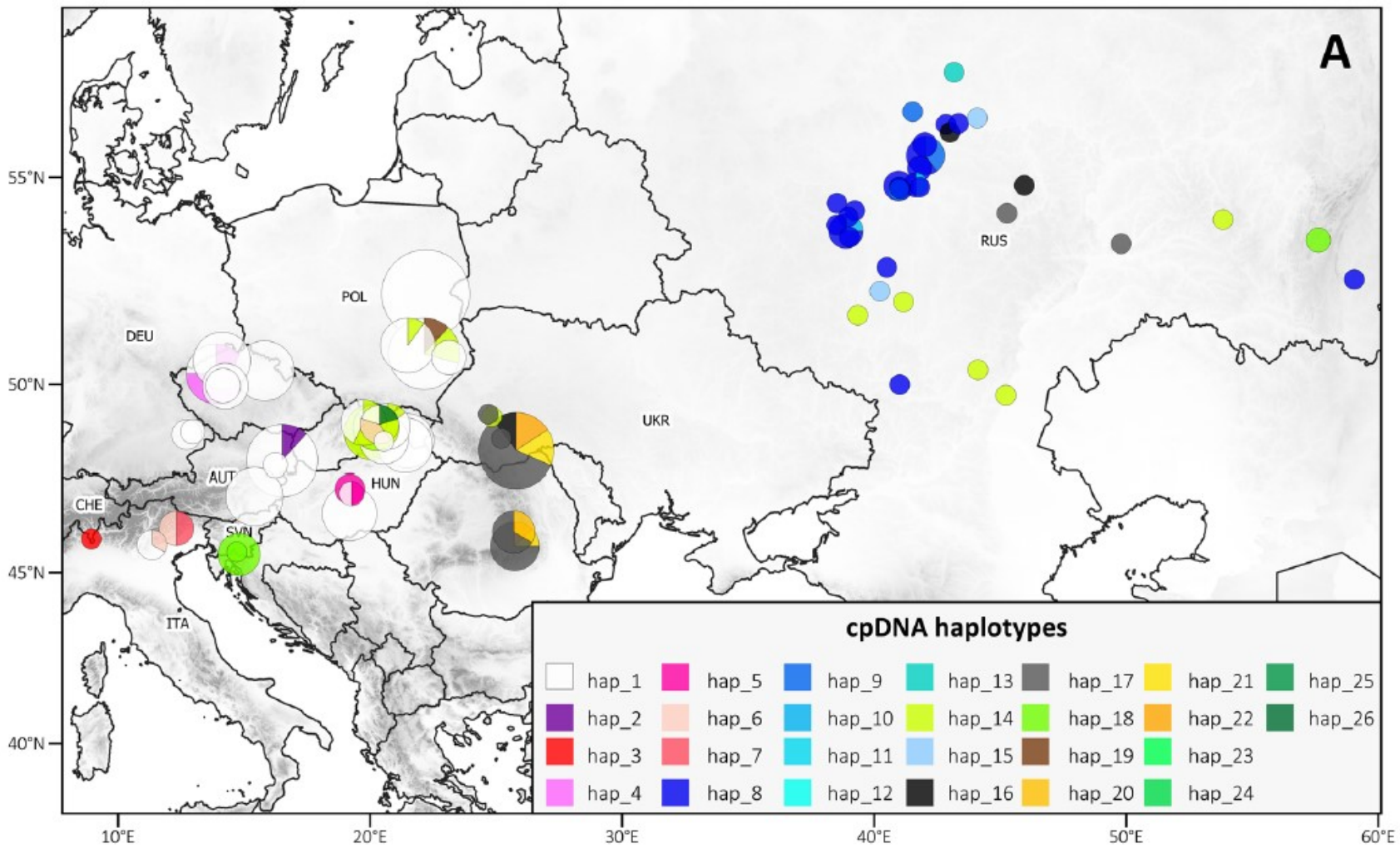
Krascheninnikovia ceratoides



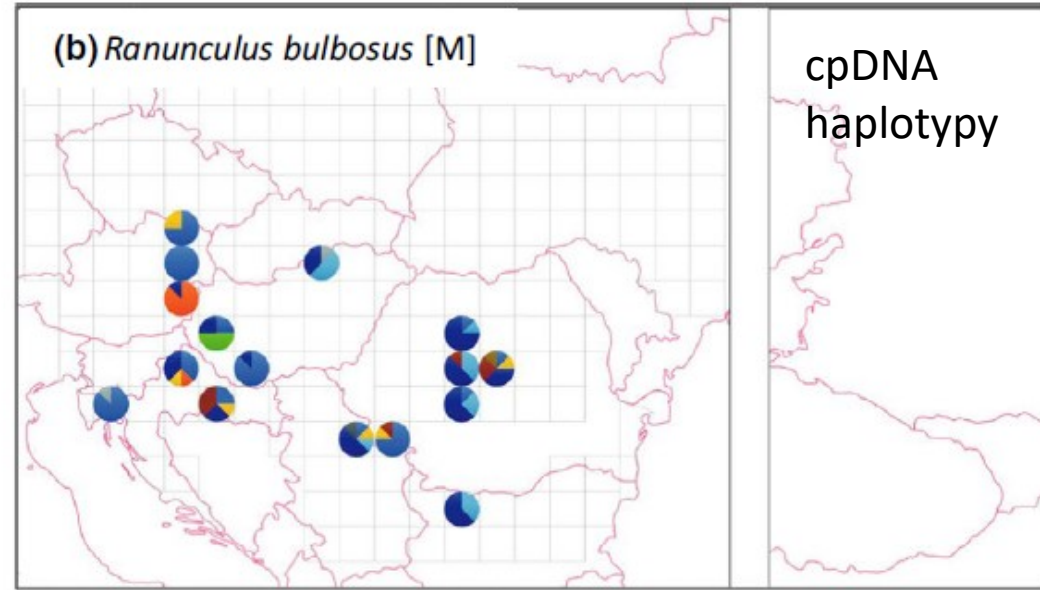
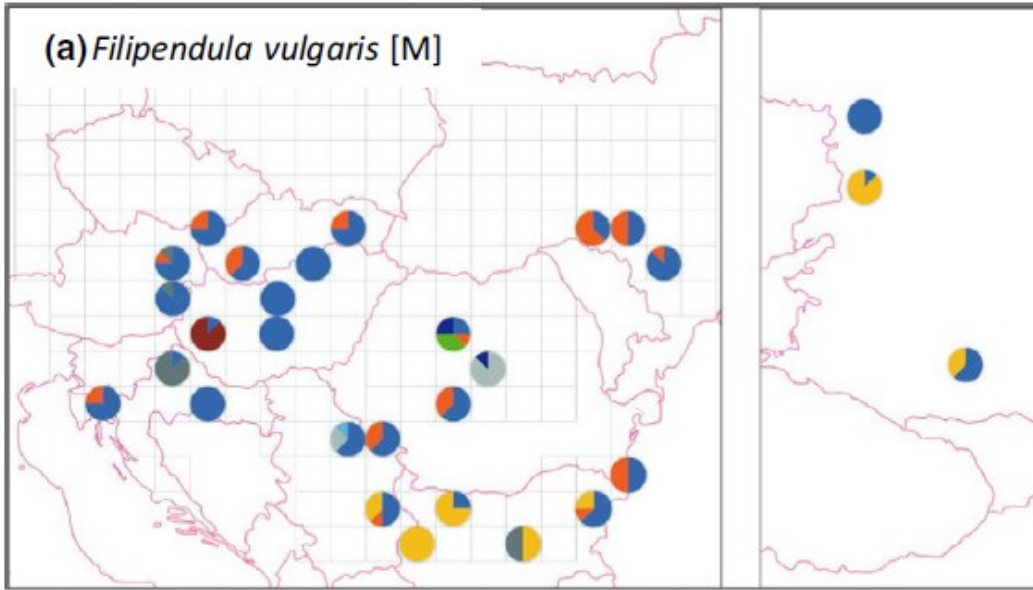
- diploid
- tetraploid
- unknown ploidy level



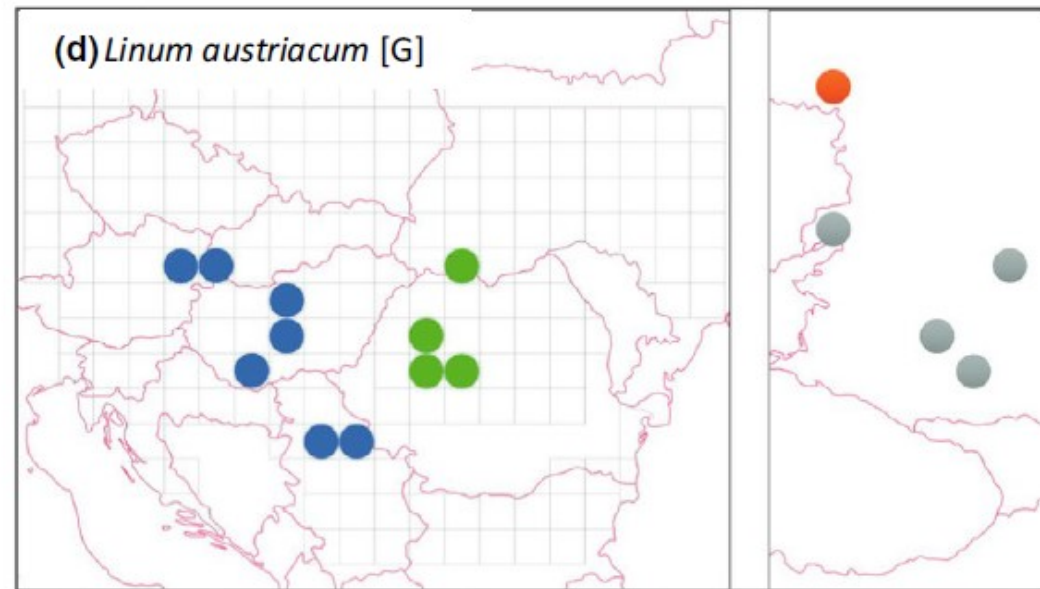
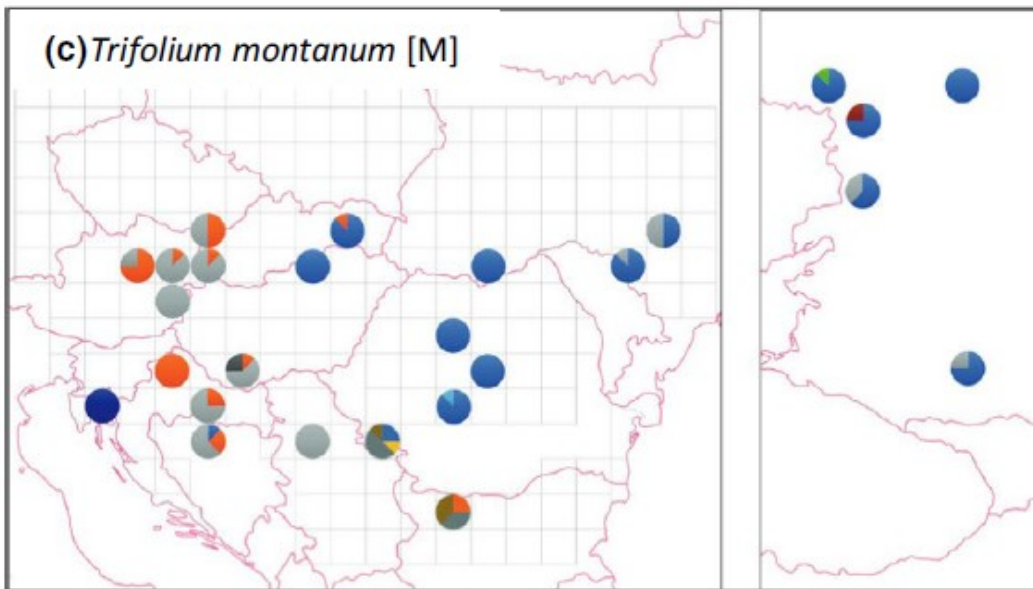
Adenophora liliifolia

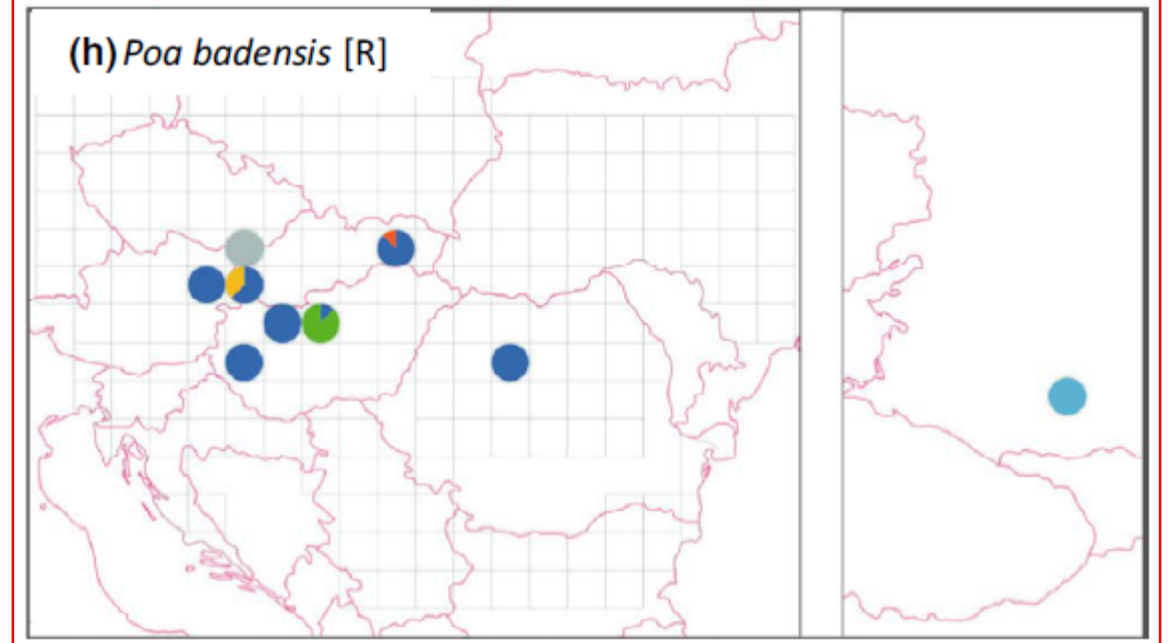
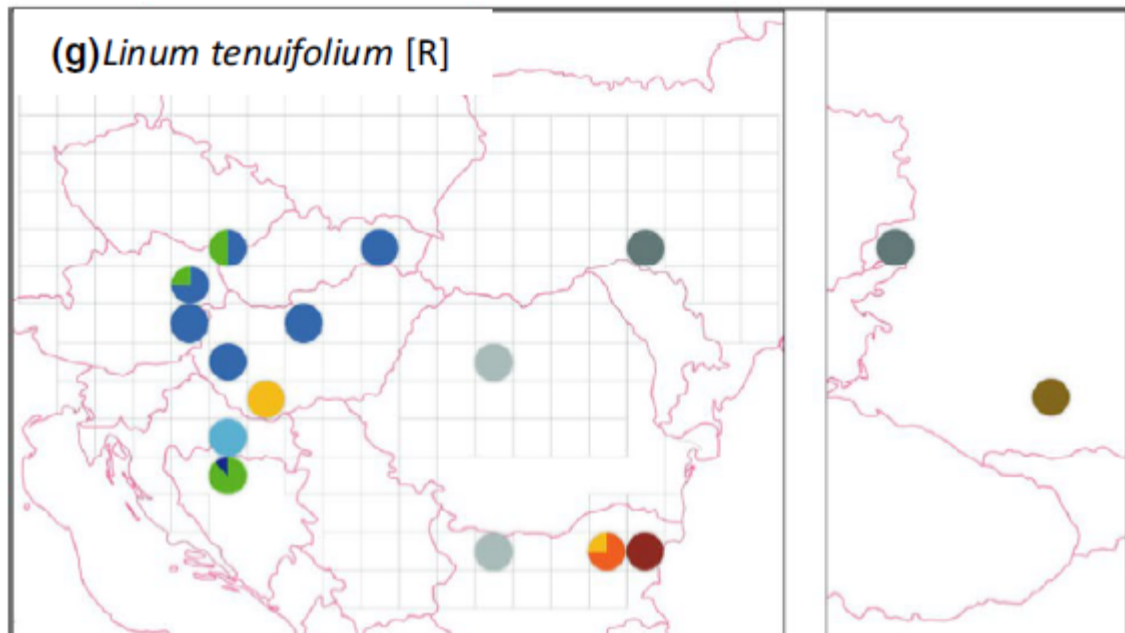
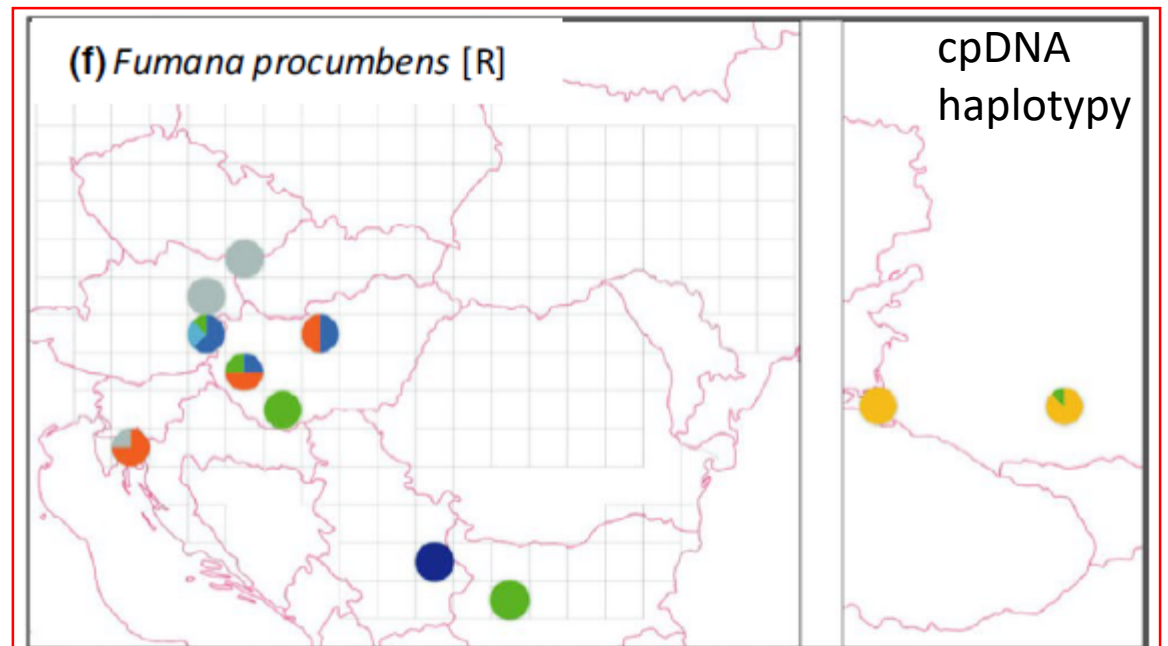
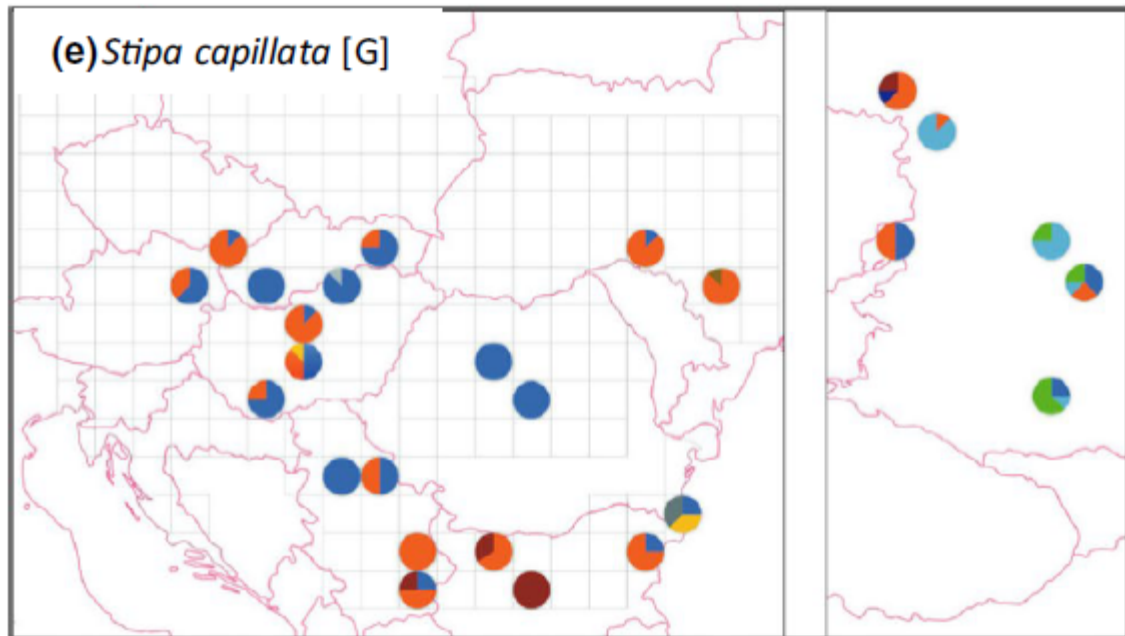


Stepní druhy

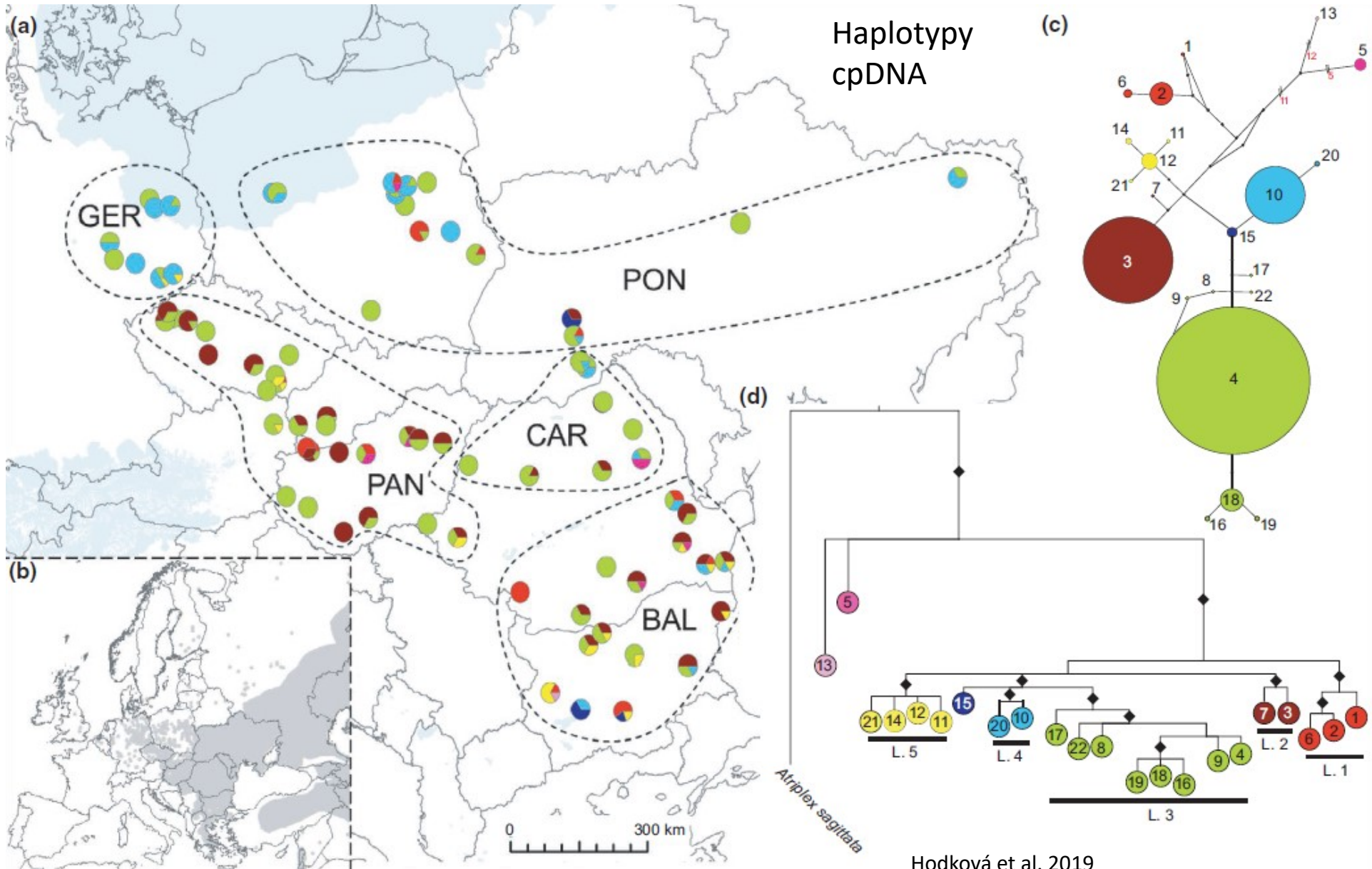


cpDNA
haplotypy



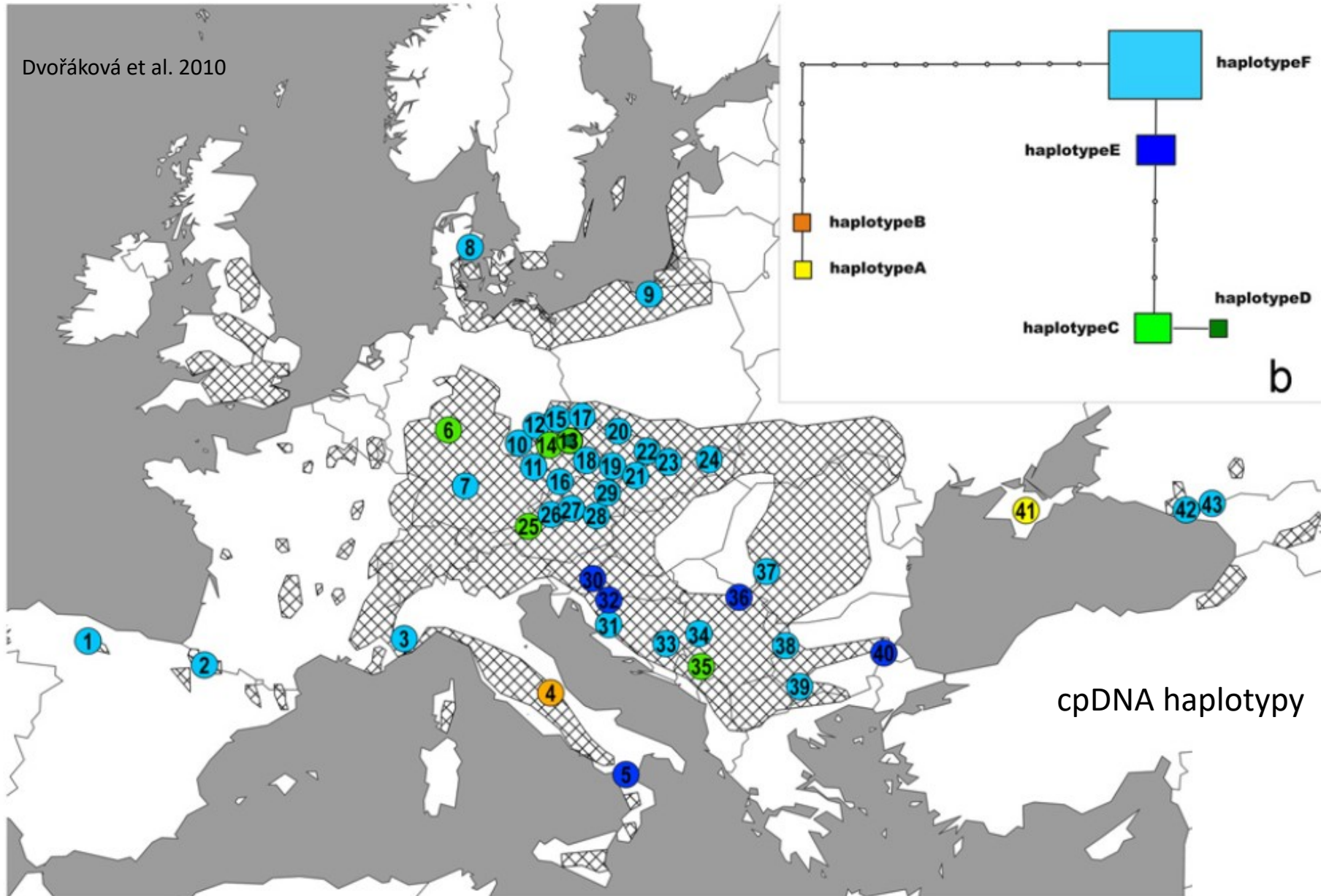


Atriplex tatarica

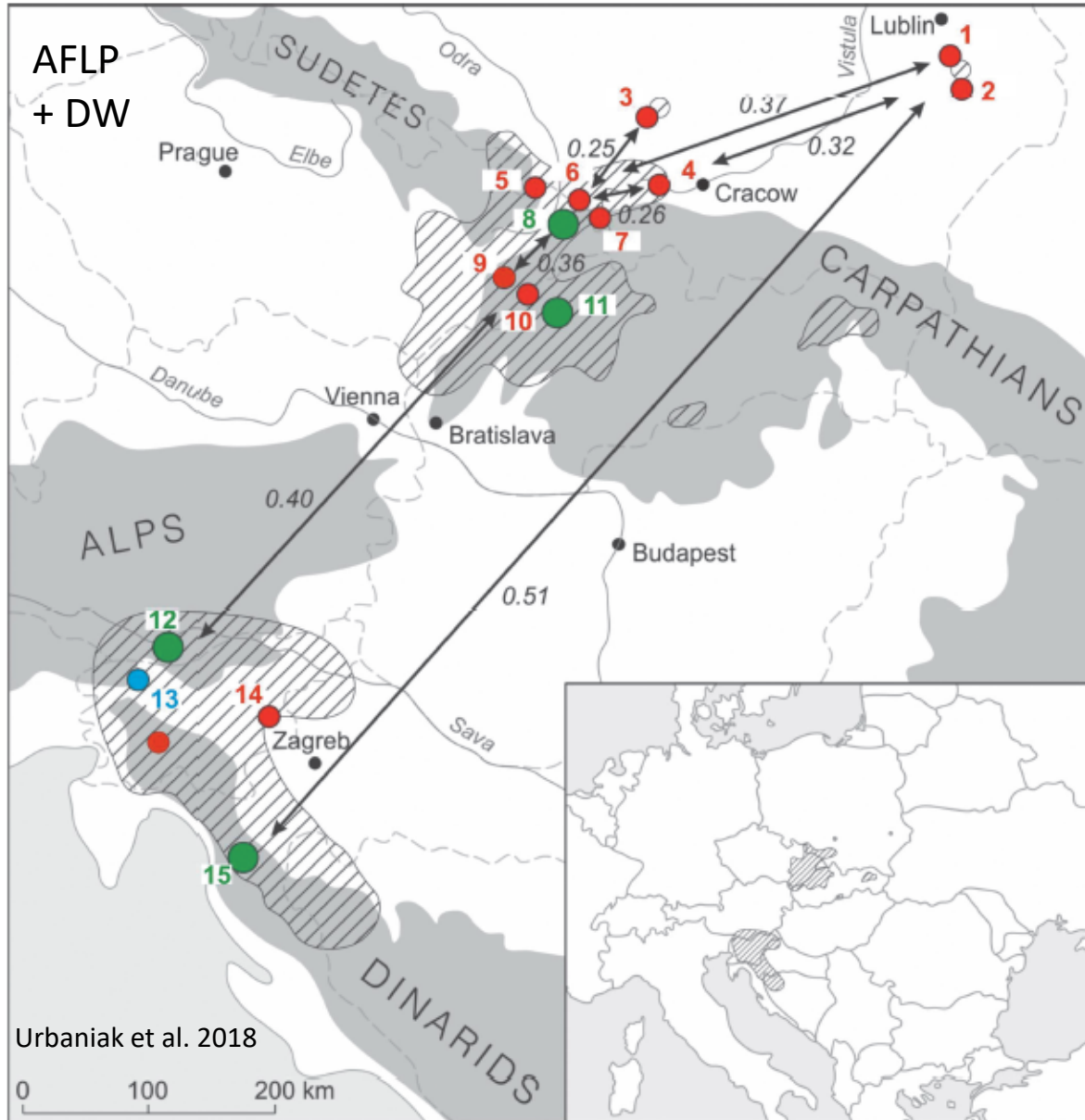


Hordelymus europaeus

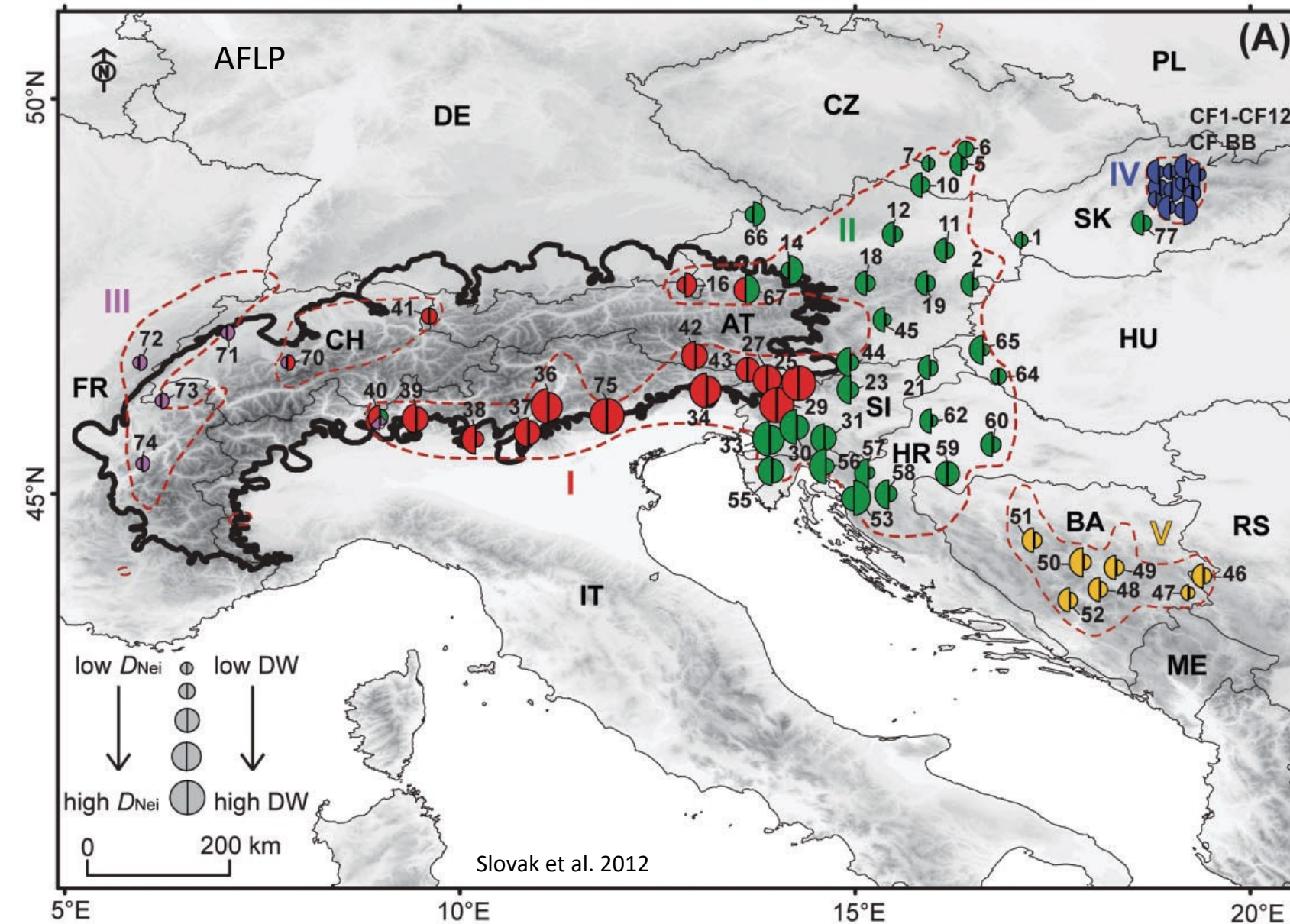
Dvořáková et al. 2010



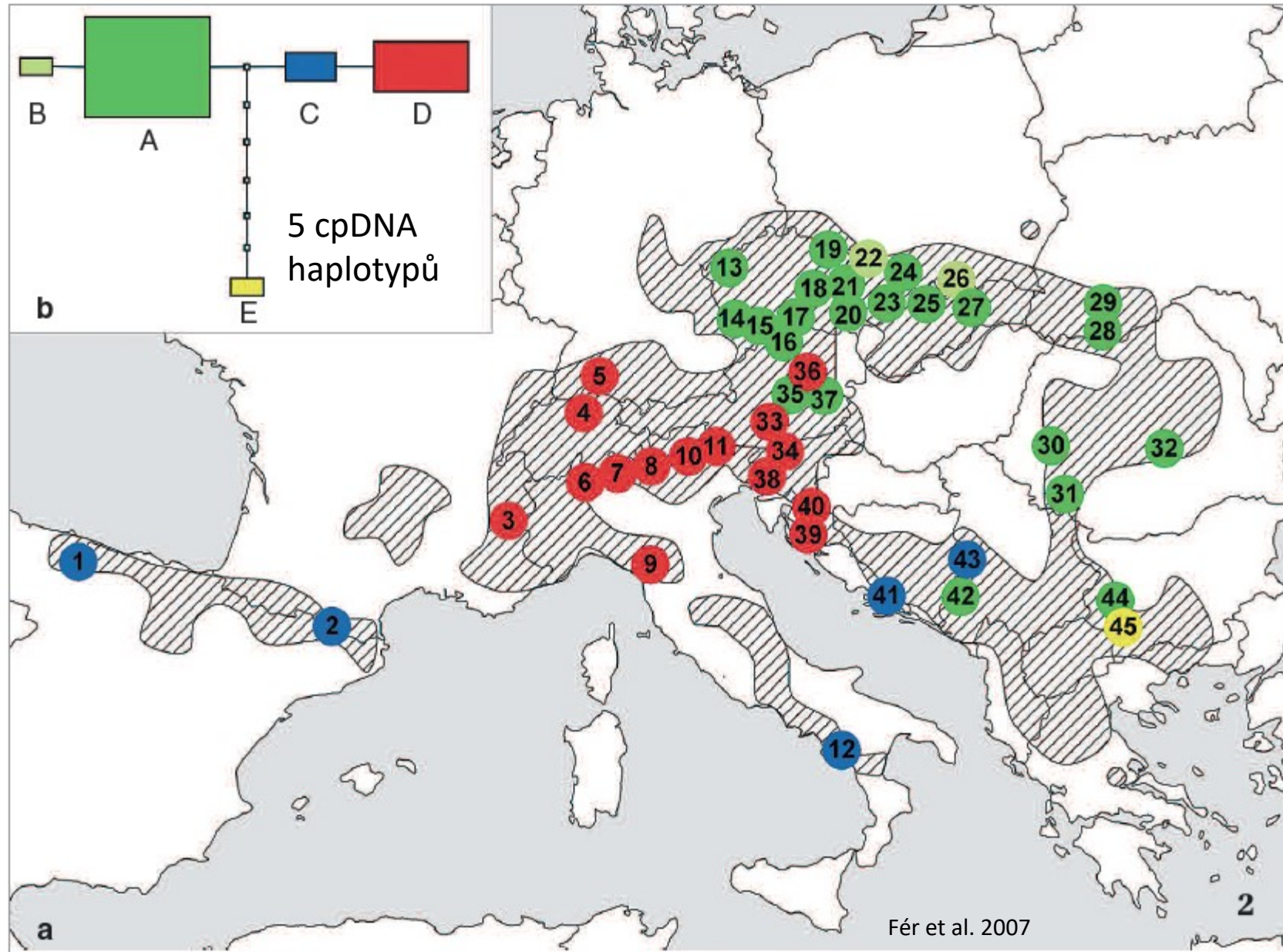
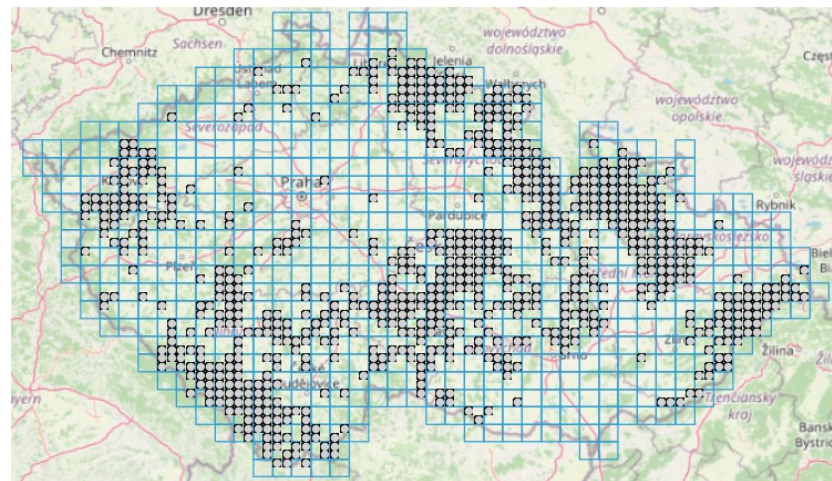
Hacquetia epipactis



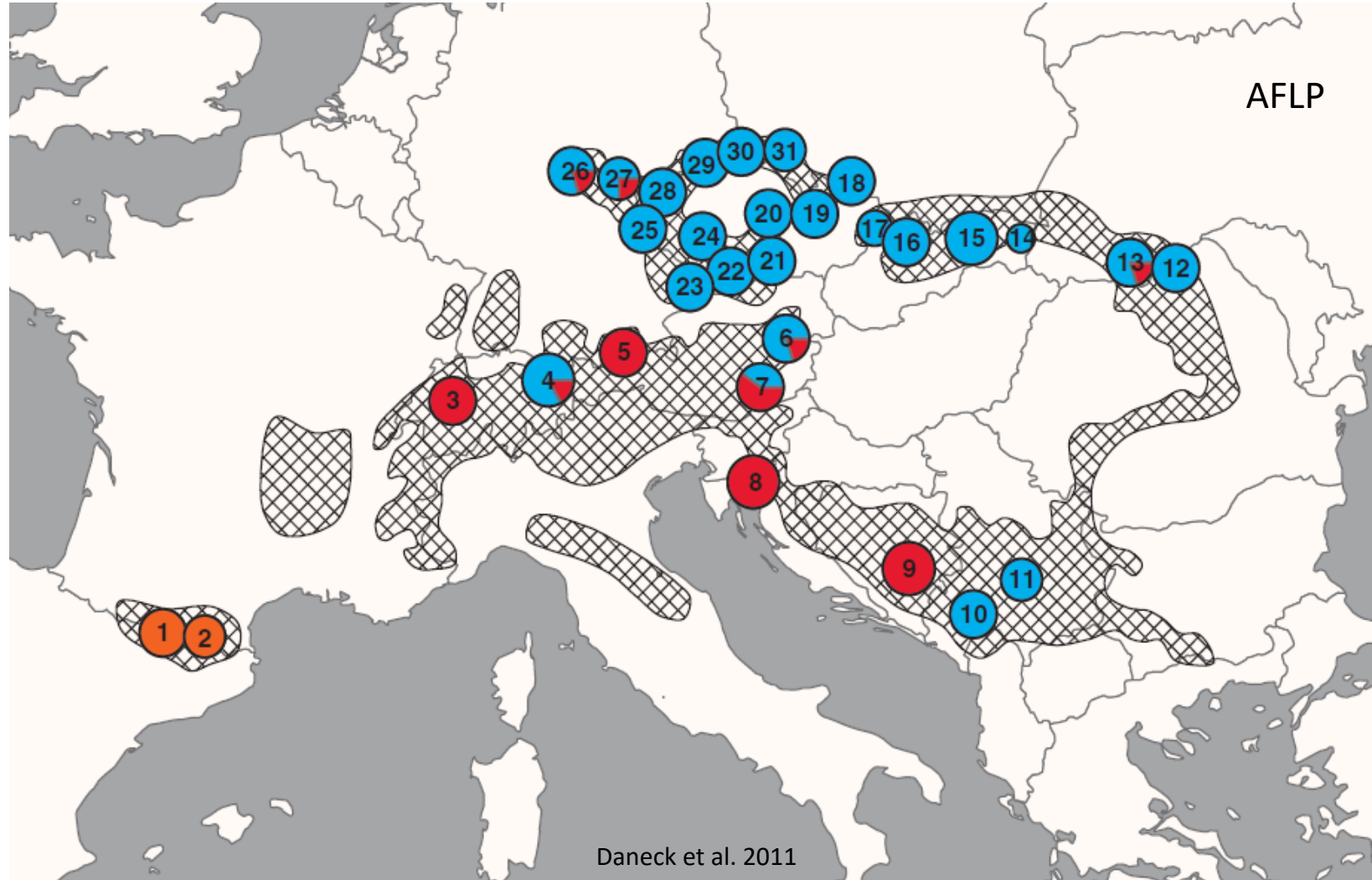
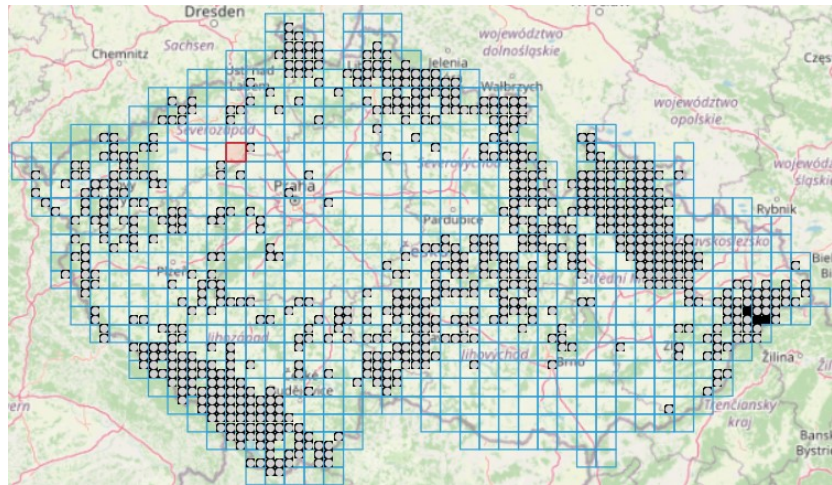
Cyclamen purpurascens



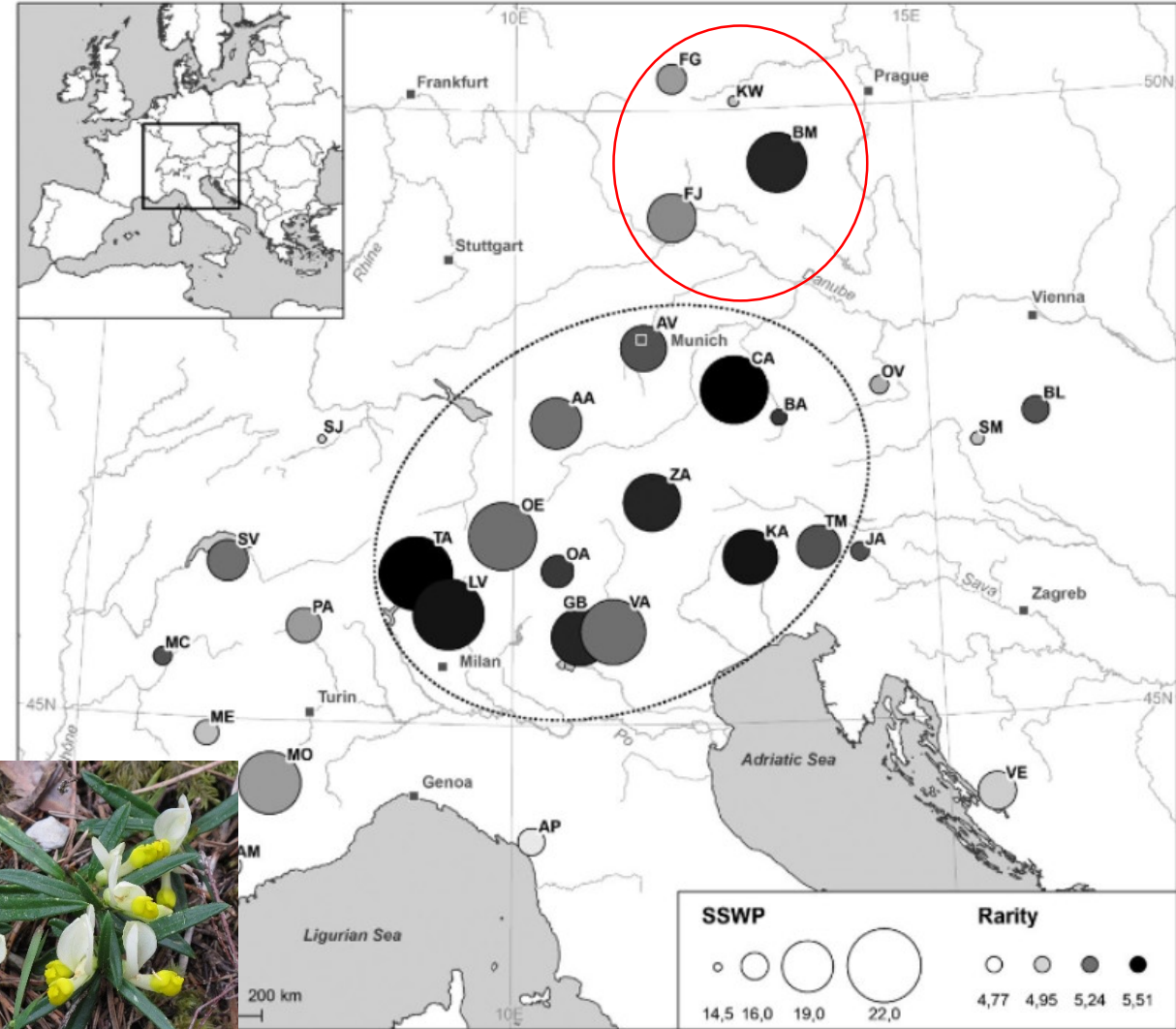
Rosa pendulina



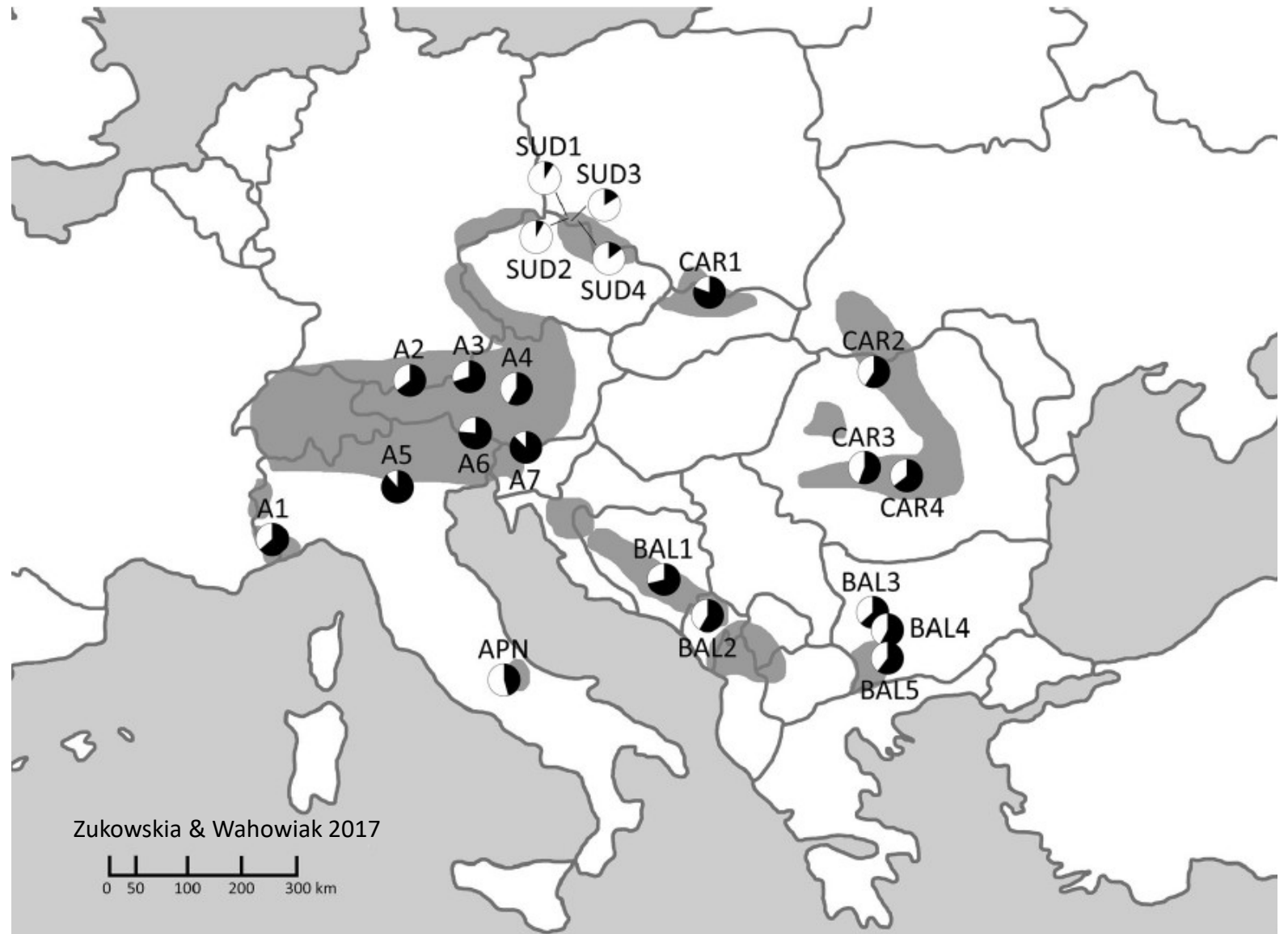
Lonicera nigra



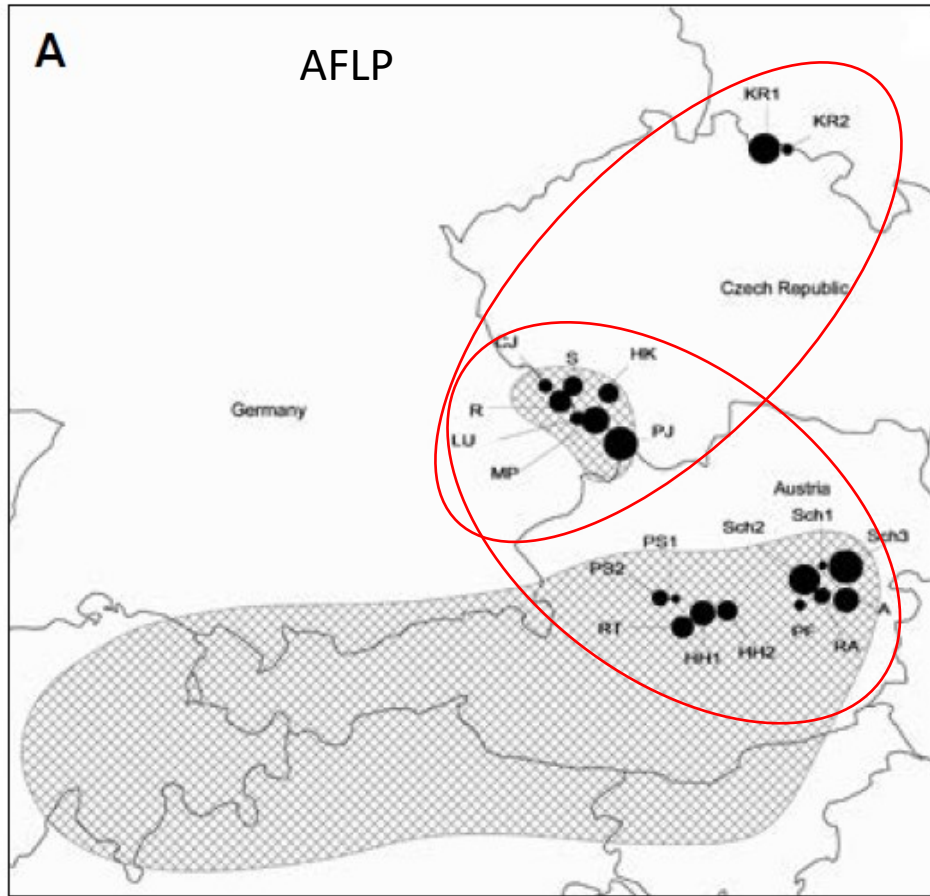
Polygala chamaebuxus



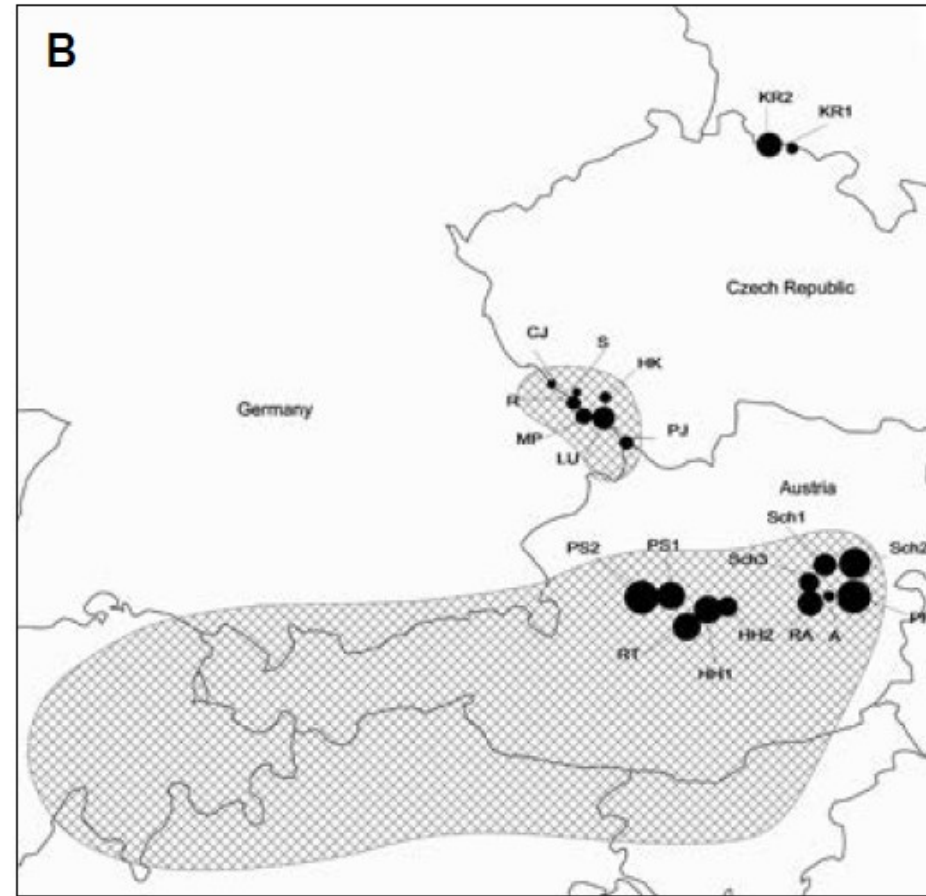
Pinus mugo



Gentiana pannonica



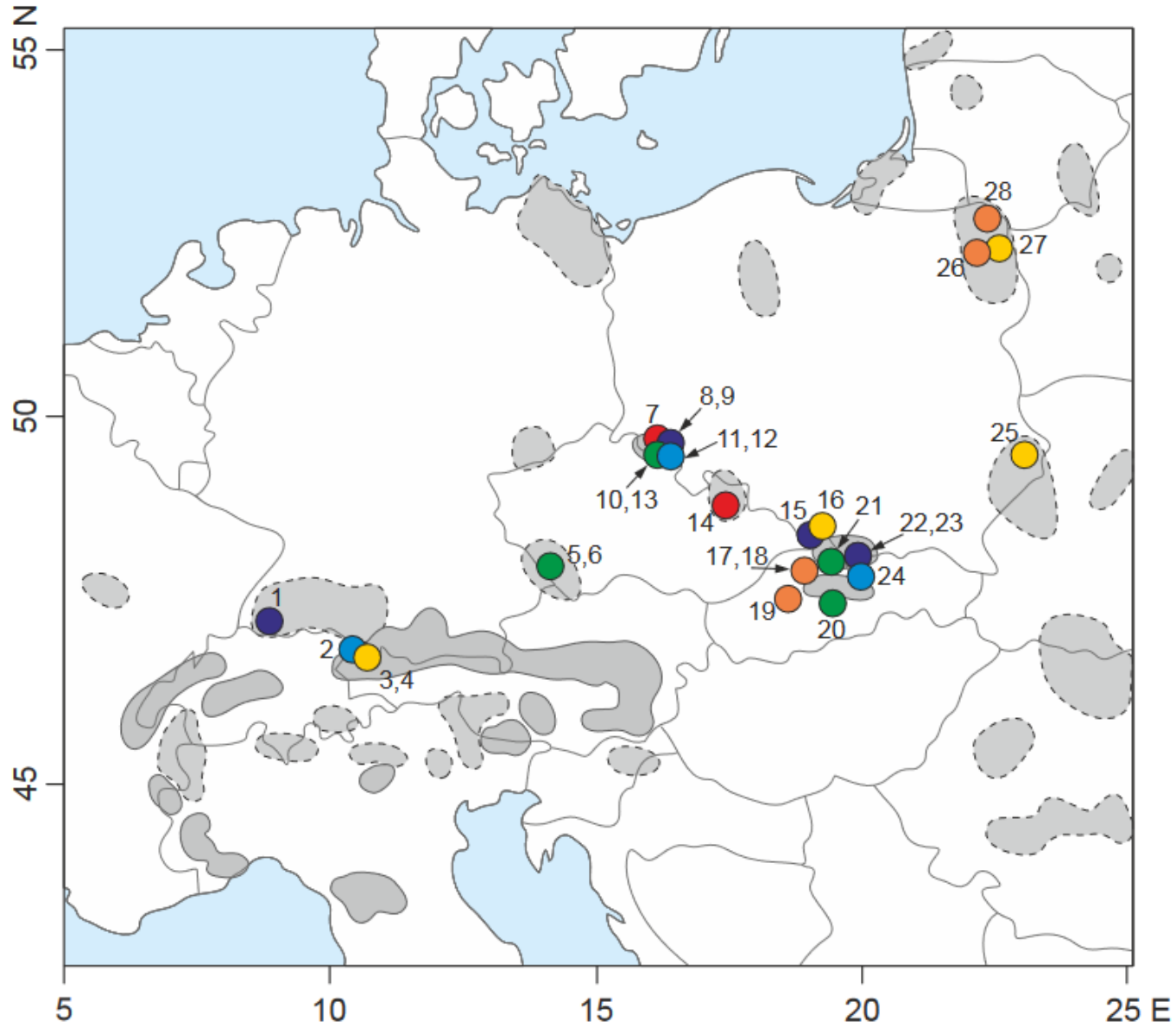
DW index uvnitř populací



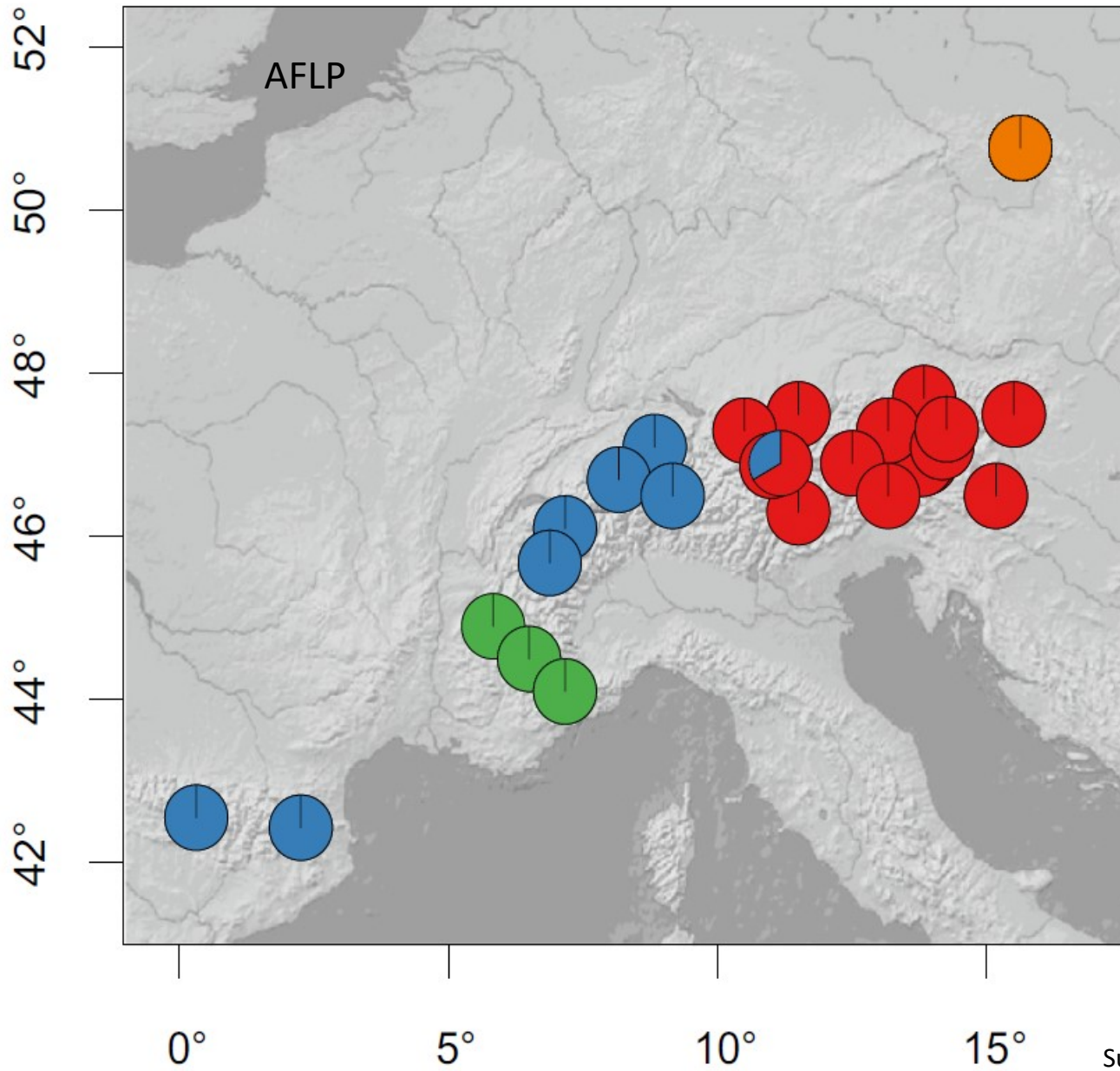
DW index v rámci celého datasetu



Swertia perennis



Rhododendron ferrugineum



Suchan et al. 2018

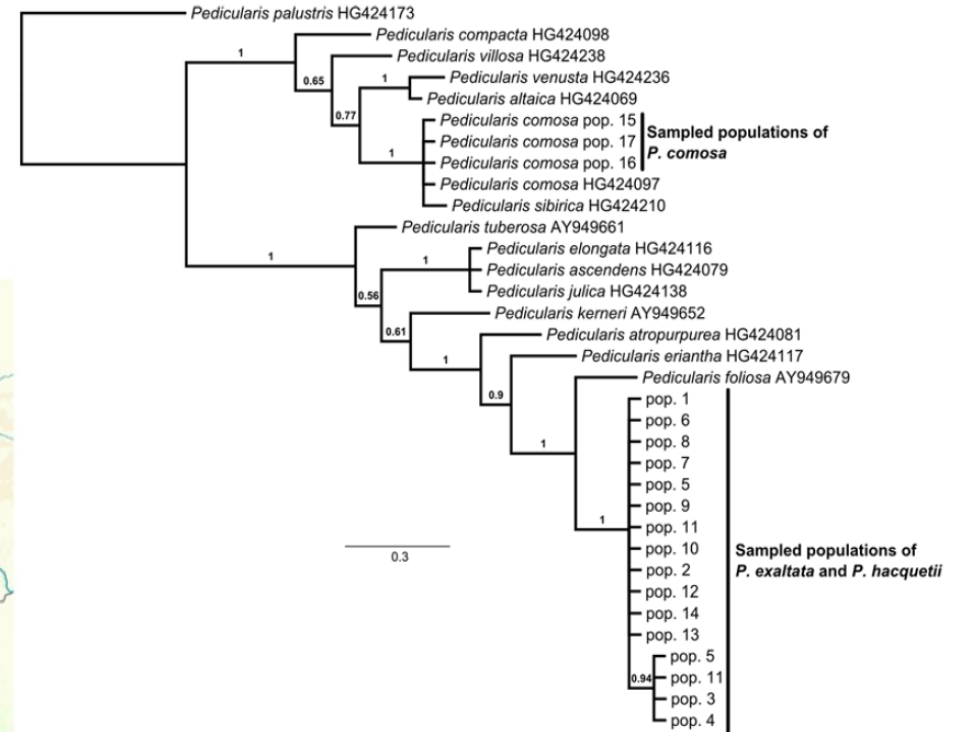
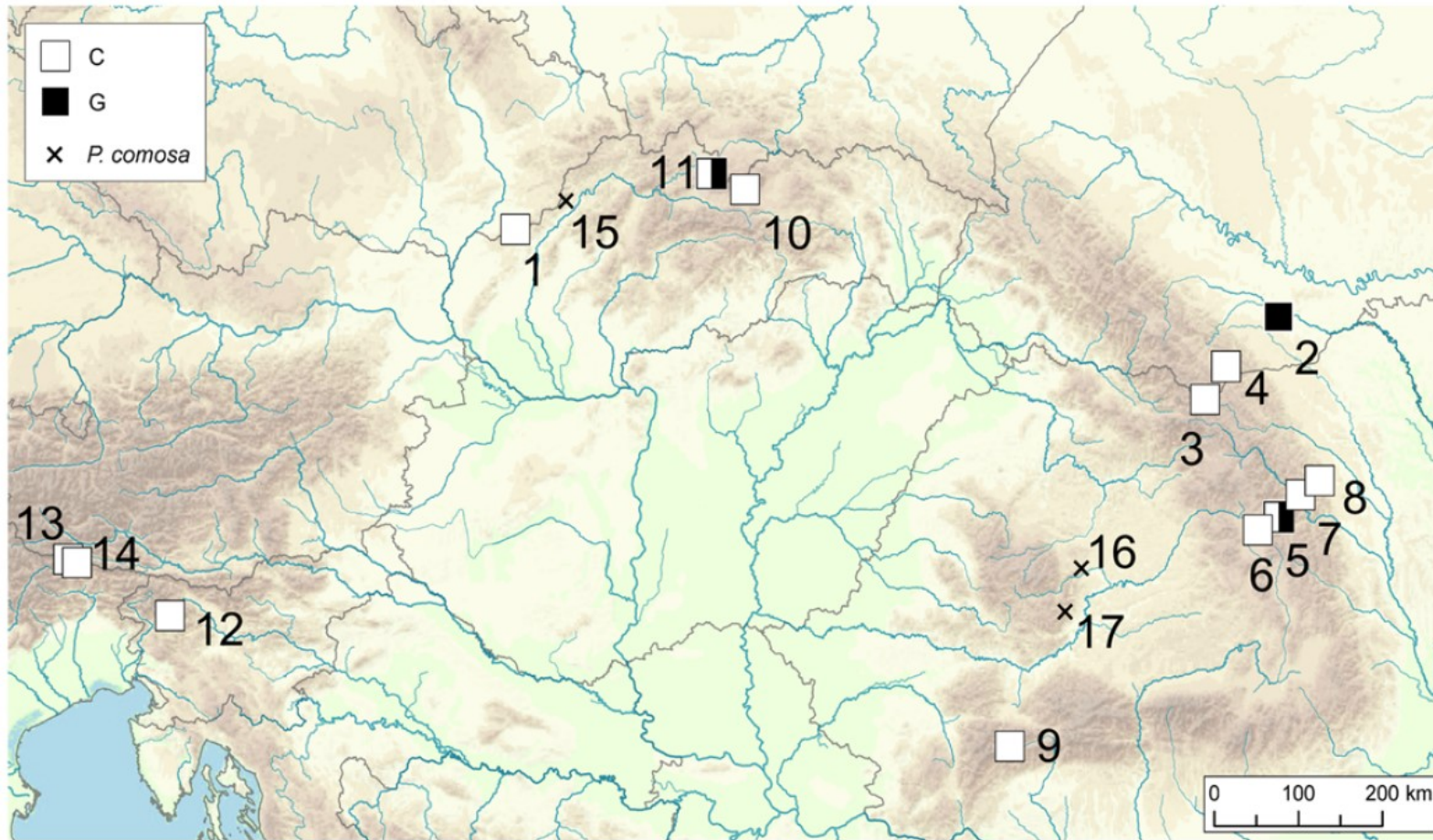


Pedicularis exaltata

- Reliktní a velmi vzácný druh s disjunktivním areálem
- Bílé Karpaty, Rumunsko, Ukrajina
- Květnaté louky



Pedicularis exaltata

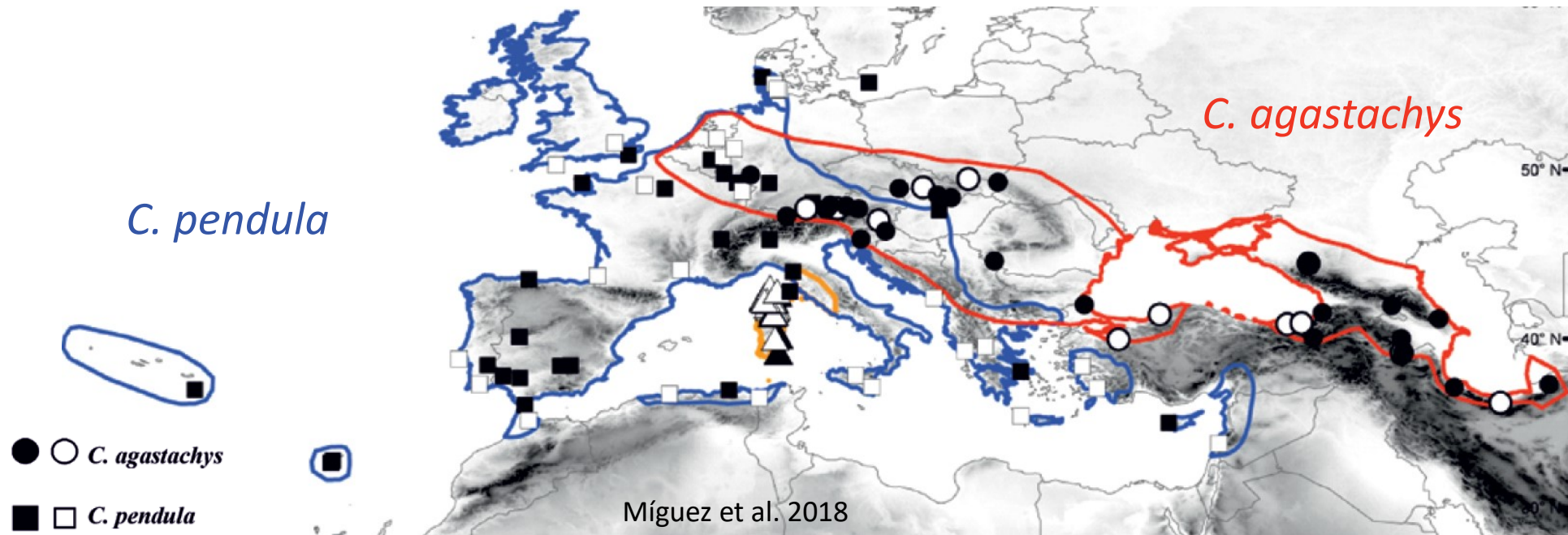


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Carex agastachys

- *Carex pendula* agg.
- dva druhy + široká přechodná zóna



Trichomanes speciosum

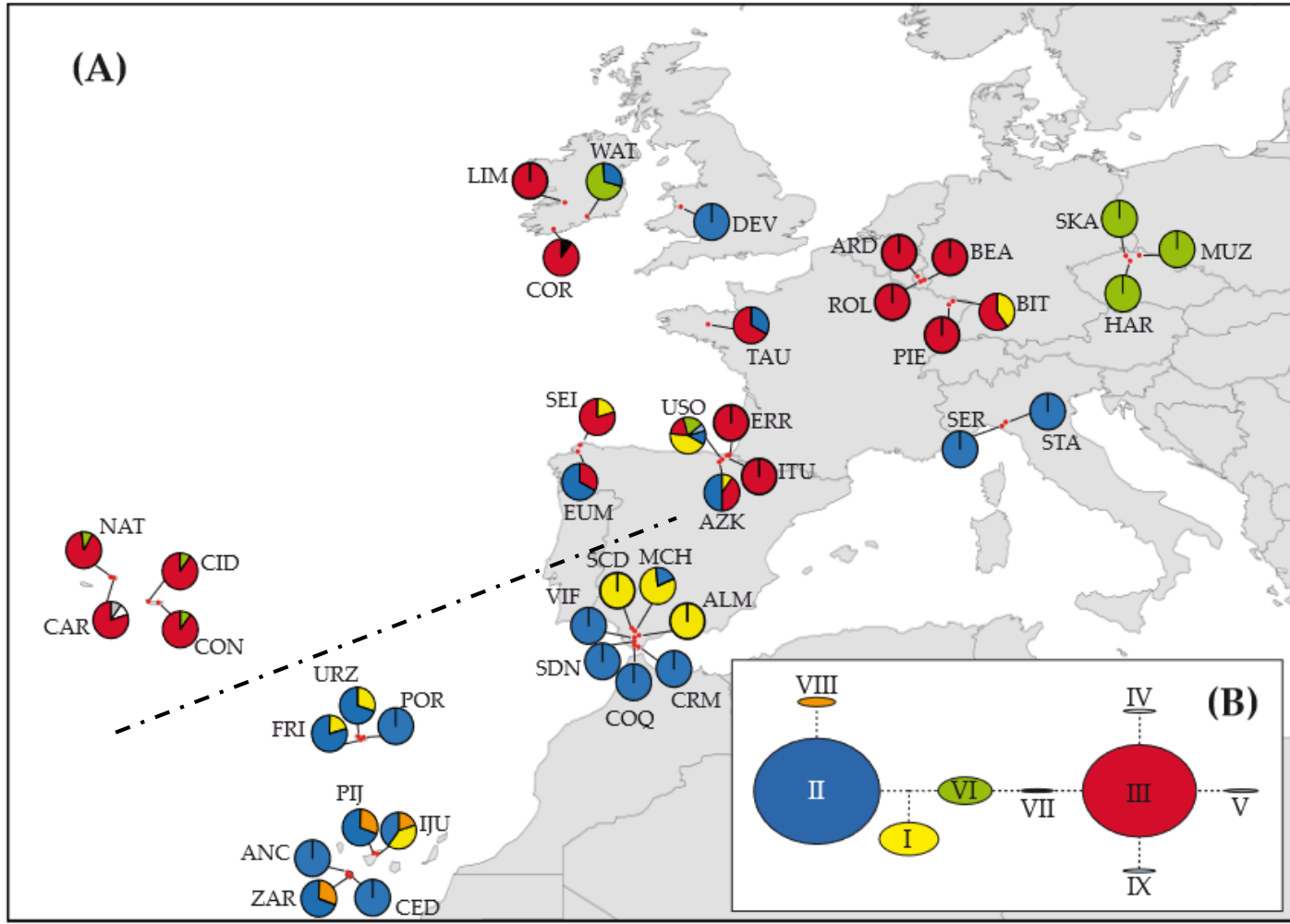


Figure 2. Distribution and network of the cpDNA haplotypes detected in the populations sampled of *Vandenboschia speciosa*.

Kryptická invaze – *Puccinellia distans*

