

# Endemismus

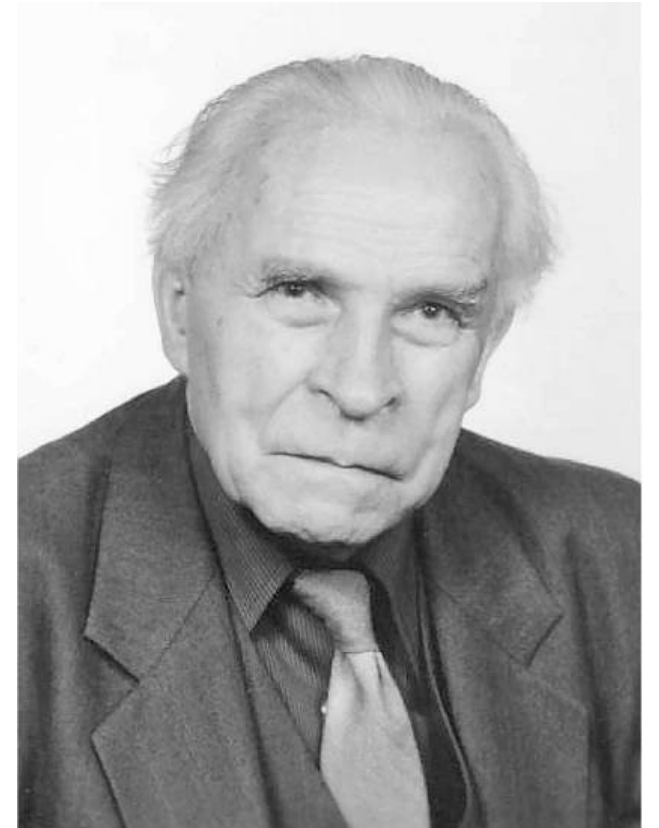
Map 8.9 Centres of plant endemism in Europe



Hendrych 1982

# Endemismus

- Hadač (1977)
  - 118 druhů a poddruhů
- Holub (1979)
  - 43 endemických taxonů
- Gerža (2009)
  - 29 sexuálních druhů a 40 apomiktů
- Kaplan (2017)
  - 74 druhů a poddruhů



Emil Hadač (1914-2003)

# Endemismus

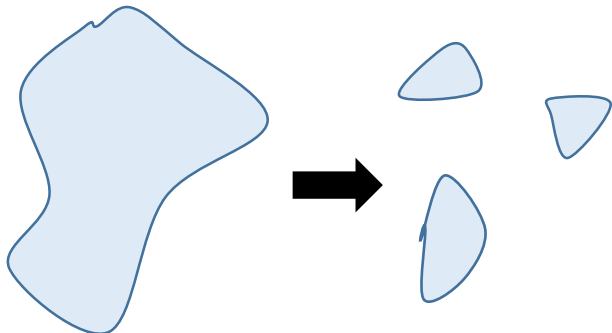
- ČR relativně málo a mladé
  - Bez velehor
  - Silně ovlivněno glaciály
  - Bez endemických rodů
- ČR celkem 74 druhů a poddruhů
  - 48 striktně českých
  - 6 vyhynulých (*Euphrasia corcontica*, *Potentilla psammophila*, jestřábníky)



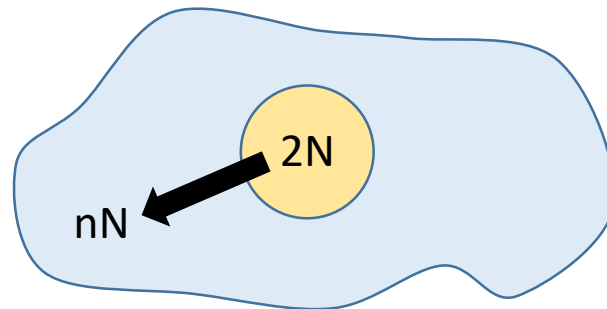
# Typy endemismu

- Stáří:
  - Neoendemity vs. paleoendemity
- Velikost areálu:
  - Eurychorní vs. stenochorní vs. monotopní
  - Endemit vs. subendemit
- Mechanismus vzniku

- Schizoendemity

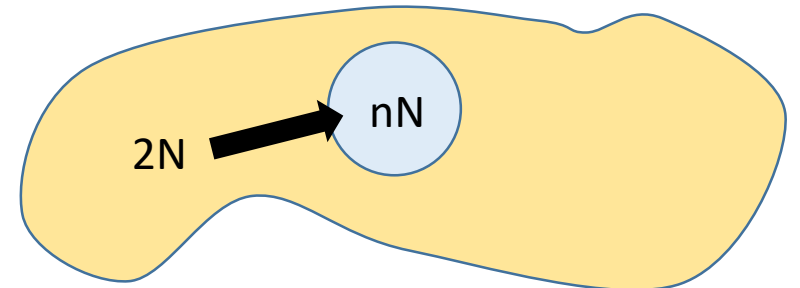


- vs. patroendemity



$n > 2$

- vs. apoendemity



# Typy endemismu

- Stáří

- Neoendemity – *Hieracium* spp., *Pilosella* spp., *Sorbus* spp...
- Paleoendemity
  - *Campanula carpatica*
  - *Daphne arbuscula*
  - *Delphinium oxysepalum*
  - *Dianthus nitidus*
  - *Ginkgo biloba*, *Welwitschia mirabilis*, *Wollemia nobilis*



# Typy endemismu

- Velikost areálu

- Eurychorní

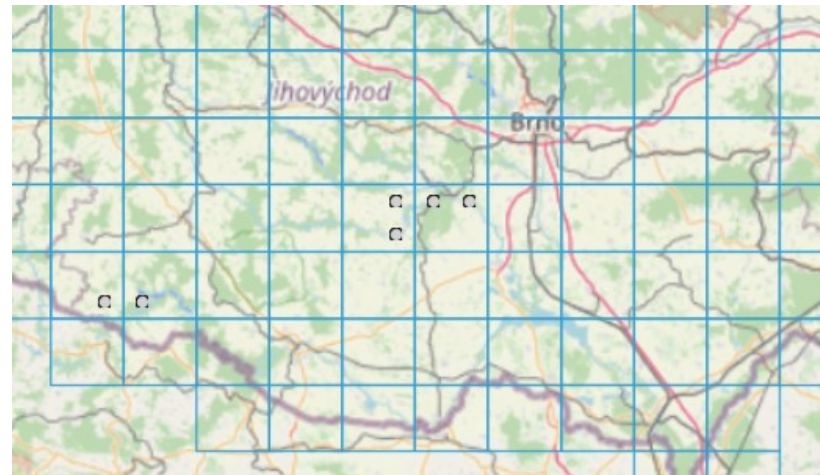
- *Abies alba*, *Arum maculatum*, *Fagus sylvatica*, *Pulsatilla grandis* (+ rody *Hacquetia*, *Soldanella* a další)

- Stenochorní

- *Dianthus moravicus*, *Sorbus bohemica*, *Campanula bohemica*

- Monotopní

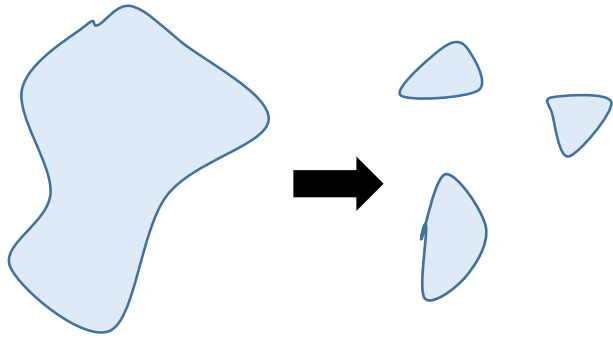
- *Poa riphaea*, *Campanula gellida*, *Carex derelicta*, *Sorbus alnifrons*



# Typy endemismu

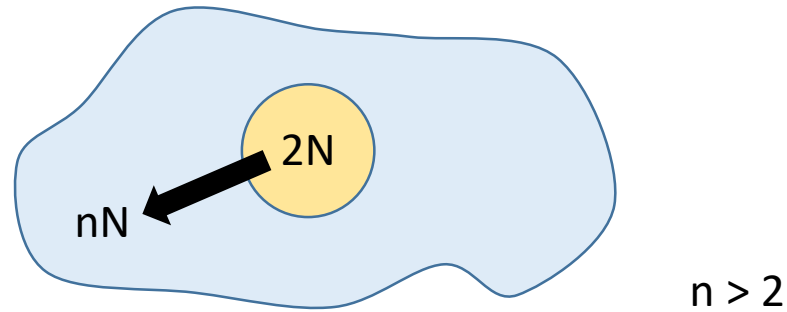
- Mechanismus vzniku

schizoendemy



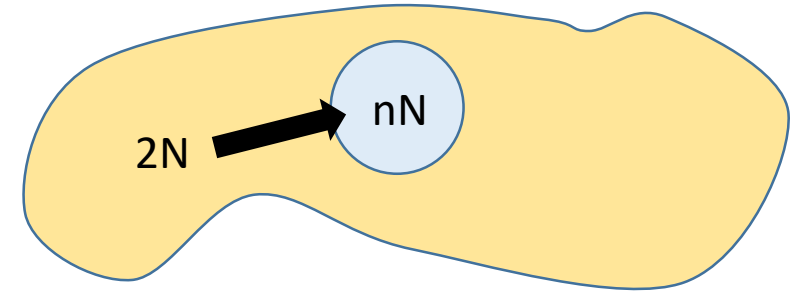
*Campanula bohémica*  
*Campanula gellida*  
*Dianthus moravicus*  
*Minuartia corcontica*

patroendemy



*Festuca tatrae* -> *F. amethystina*

apoendemy



*Poa laxa* -> *P. riphaea*

- 74 endemických taxonů ČR a nejbližšího okolí

- Zejména reliktní bezlesí

● Skály, sutě,  
doubravy

● Hadce

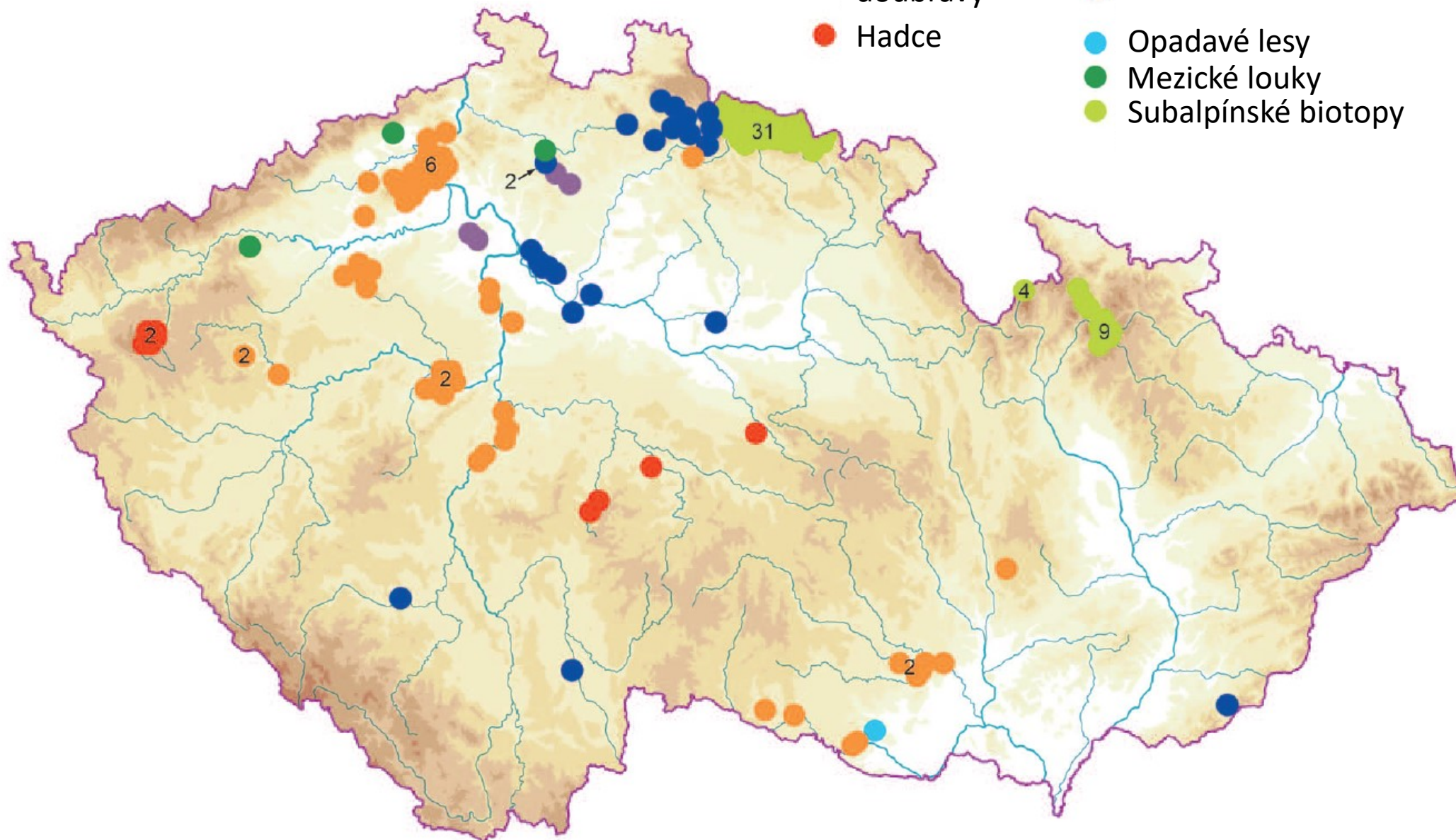
● Písčiny

● Mokřady, slatiniště

● Opadavé lesy

● Mezické louky

● Subalpínské biotopy





# Sub/alpínské

- Zejména kary, často schizoendemity
- *Campanula gelida*, *C. bohemica*
- *Carex derelicta*
- *Carlina biebersteinii* subsp. *sudetica*
- *Dianthus carthusianorum* subsp. *sudeticus*
- *Galium sudeticum*
- *Hieracium* sp. div.
- *Knautia pseudolongifolia*
- *Minuartia corcontica*
- *Pedicularis sudetica* subsp. *sudetica*
- *Plantago atrata* subsp. *sudetica*
- *Poa riphaea*
- *Sorbus sudetica*
- *Taraxacum alpestre*



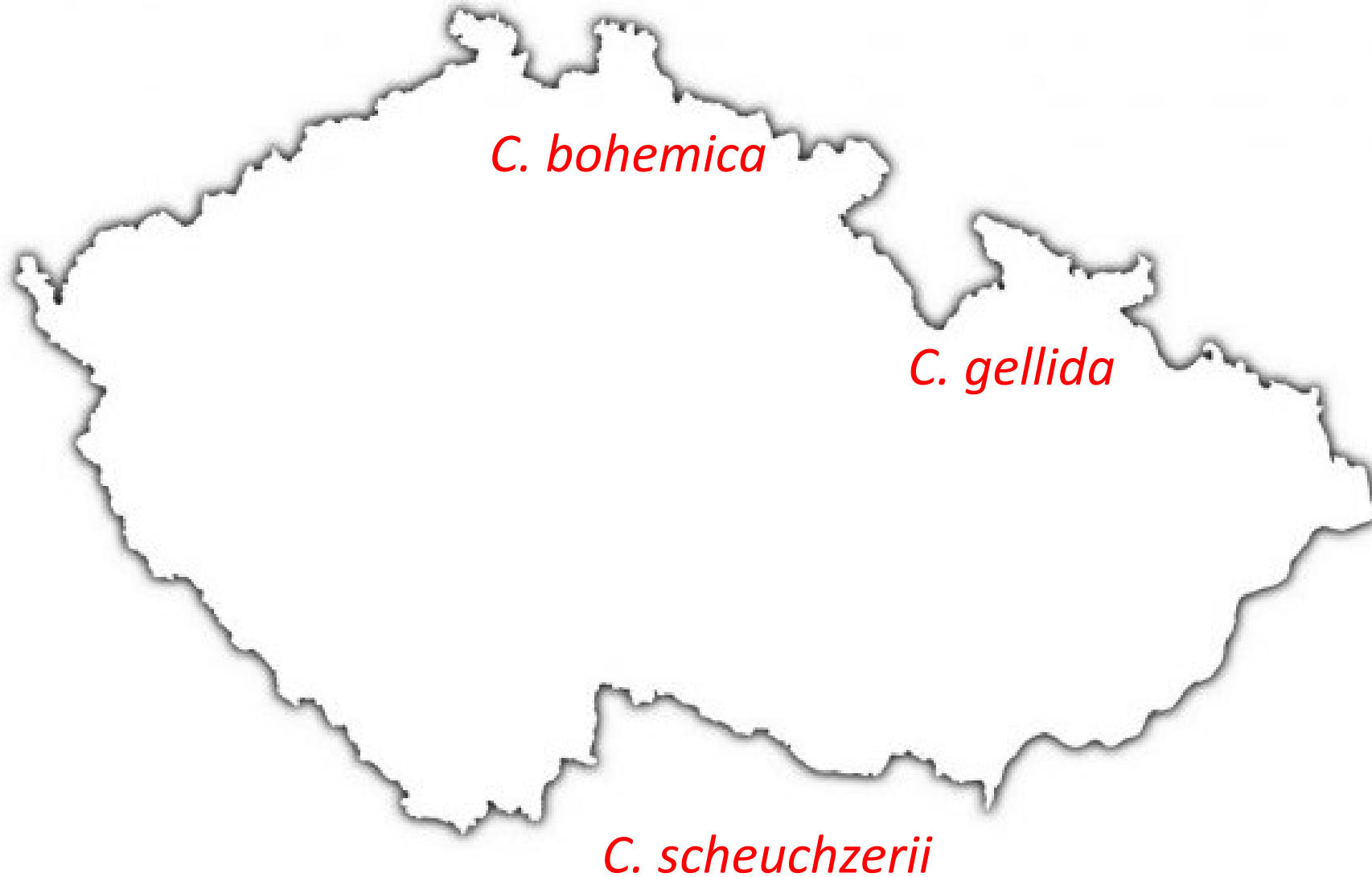


© Milan Chytrý



# Schizoendemity

*Campanula scheuchzerii* agg.



*C. scheuchzerii*

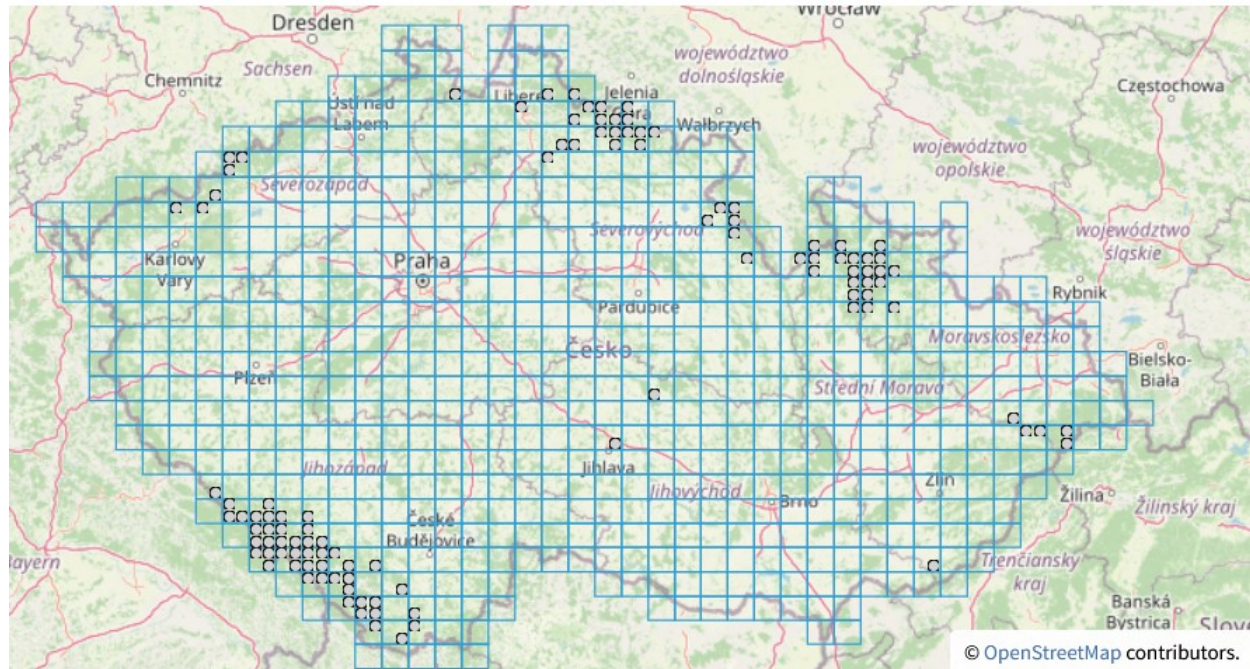
# Schizoendemity

*Poa glauca* agg. - arктоalpínská



# Horské - montánní

- *Aconitum plicatum*
- *Aconitum firmum* subsp. *moravicum*
- *Alchemilla obtusa* subsp. *trapezialis*
- *Tephroseris longifolia* subsp. *moravica*



# Skalní

- *Cortusa matthioli* subsp. *moravica*
- *Dianthus moravicus*
- *Hieracium schmidtii* subsp. *diversifolium* + subsp. *winkleri*
- *Poa crassipes*
- *Saxifraga rosacea* subsp. *steinmannii*
- *Sorbus* sp. div.



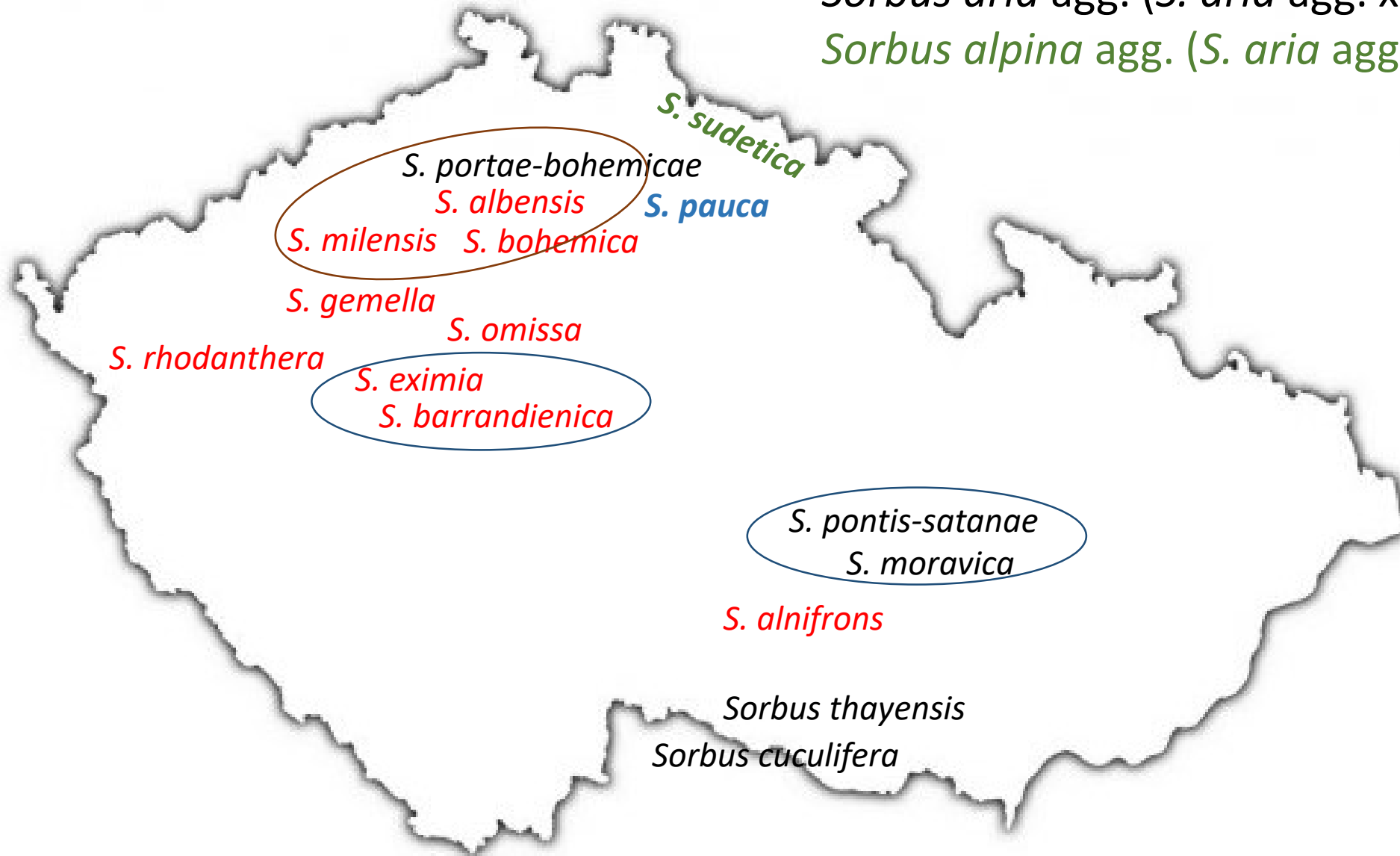
# Apomikti

*Sorbus latifolia* agg. (*S. aria* agg. x *S. torminalis*)

*Sorbus hybrida* agg. (*S. aria* agg. x *S. aucuparia*)

*Sorbus aria* agg. (*S. aria* agg. x *S. aria* s.str.)

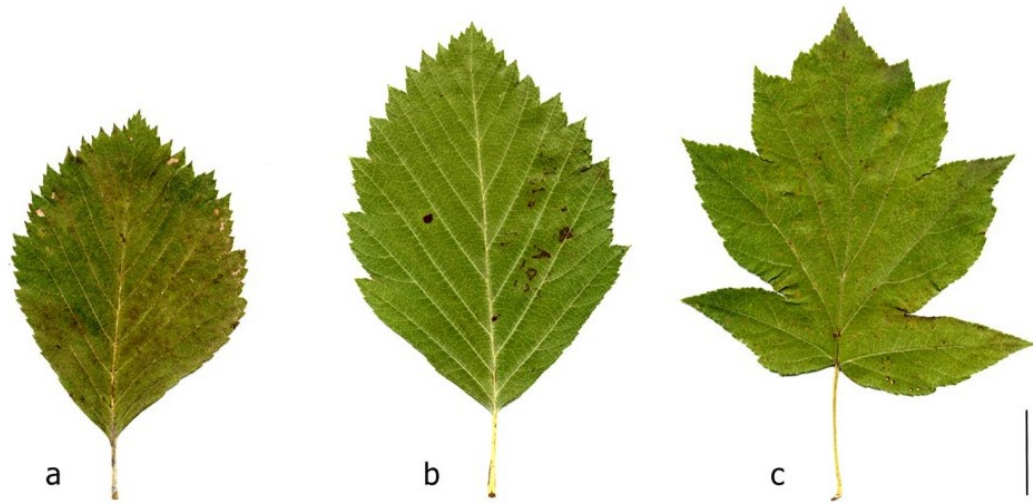
*Sorbus alpina* agg. (*S. aria* agg. x *S. chamaemespilus*)







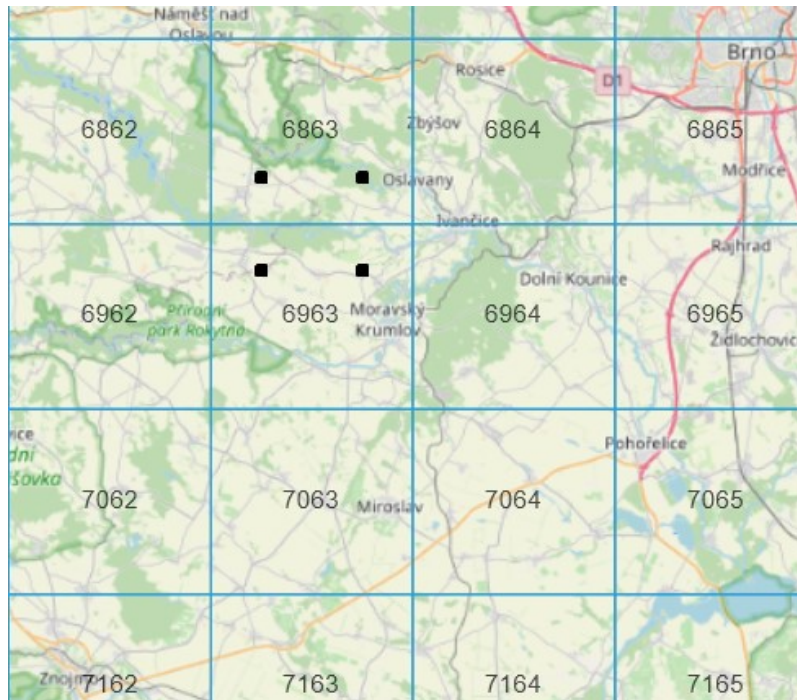
# *Sorbus alnifrons*



Obr. 5. Skeny listů (a) jeřábu podunajského (*Sorbus danubialis*), (b) j. olšolistého (*S. alnifrons*) a (c) j. břeku (*S. torminalis*). Měřítko je 2 cm.



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# *Sorbus pauca*



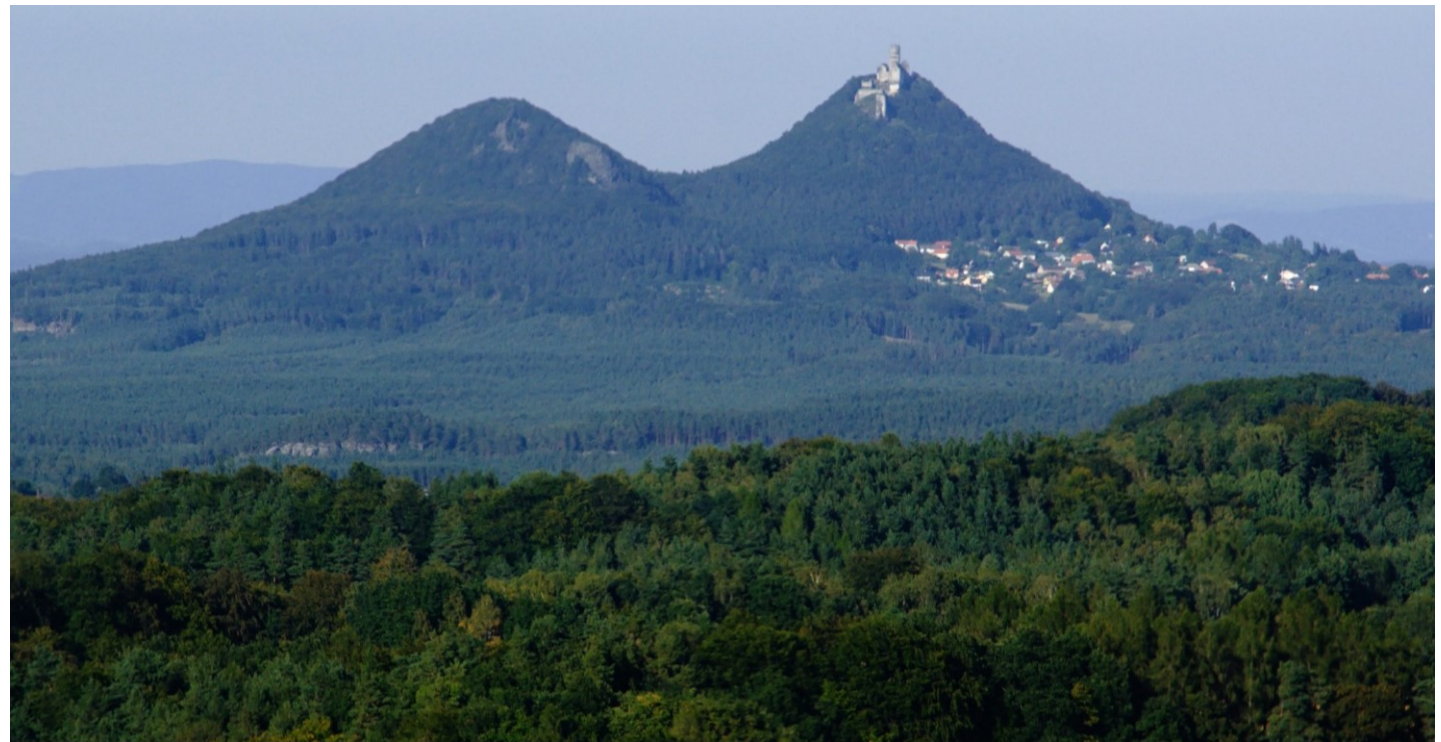
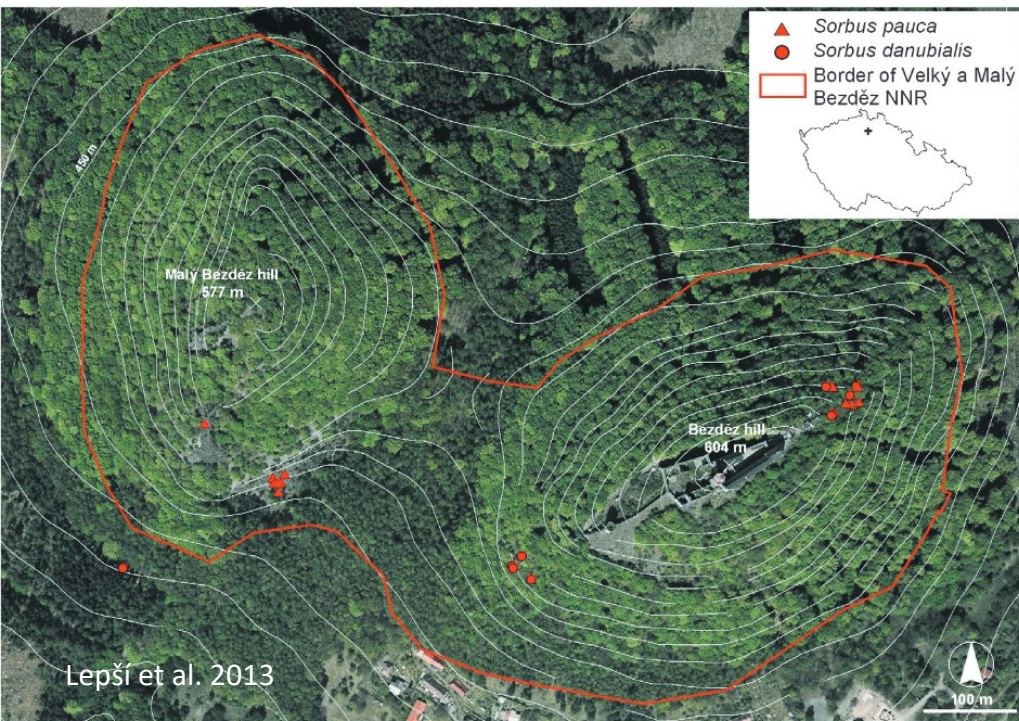
x



© Pavel Veselý



?x



# *Sorbus sudetica*



×



# Apomikti

*Sorbus latifolia* agg. (*S. aria* agg. x *S. torminalis*)

*Sorbus hybrida* agg. (*S. aria* agg. x *S. aucuparia*)

*Sorbus aria* agg. (*S. aria* agg. x *S. aria* s.str.)

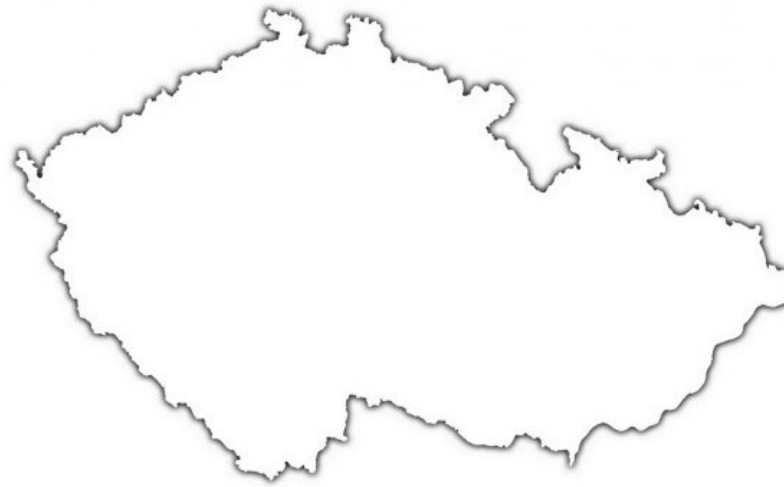
*Sorbus alpina* agg. (*S. aria* agg. x *S. chamaemespilus*)

*S. decipiens*

*S. heilingensis*

*S. isenacensis*

...



*S. margittaiana*

*S. pekarovae*

*S. zuzanae*

...

*S. haszlinszkyana*

*S. degenii*

*S. Vertesensis*

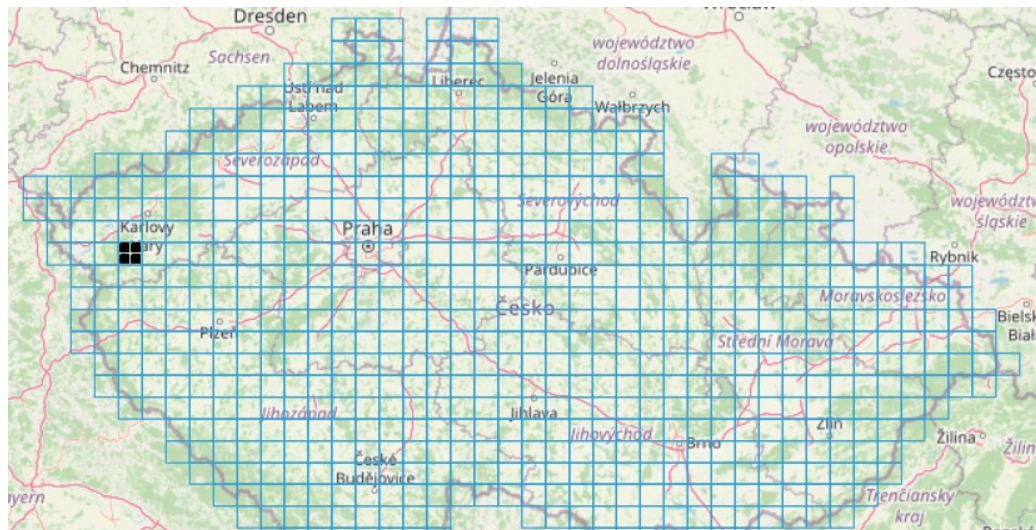
...

# Hadcové

- *Cerastium alsinifolium*
- *Galium sudeticum* (?)
- *Knautia serpentinicola*
- *Minuartia smejkalii*



# *Cerastium alsinifolium*



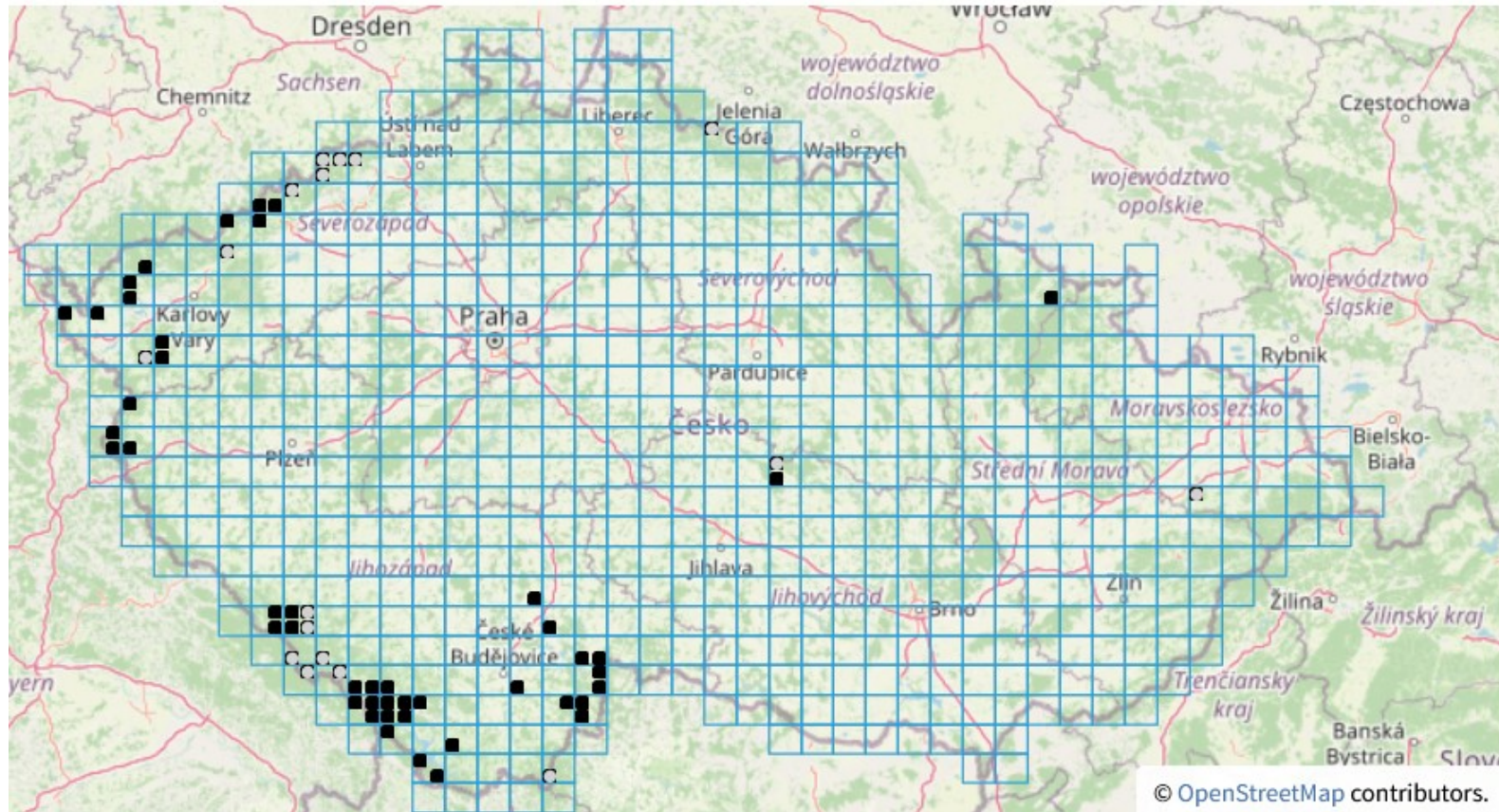
# Rašelinné

- *Dactylorhiza bohemica*
- *Dactylorhiza carpatica*
- *Pinguicula bohemica* (+ *P. ×dostalii*)
- *Pinus uncinata* subsp. *uliginosa*
- *Taraxacum* sect. *Palustria* (např. *T. indigenum*)



# *Pinus uncinata* subsp. *uliginosa*

- Český subendemit
- Vrchoviště



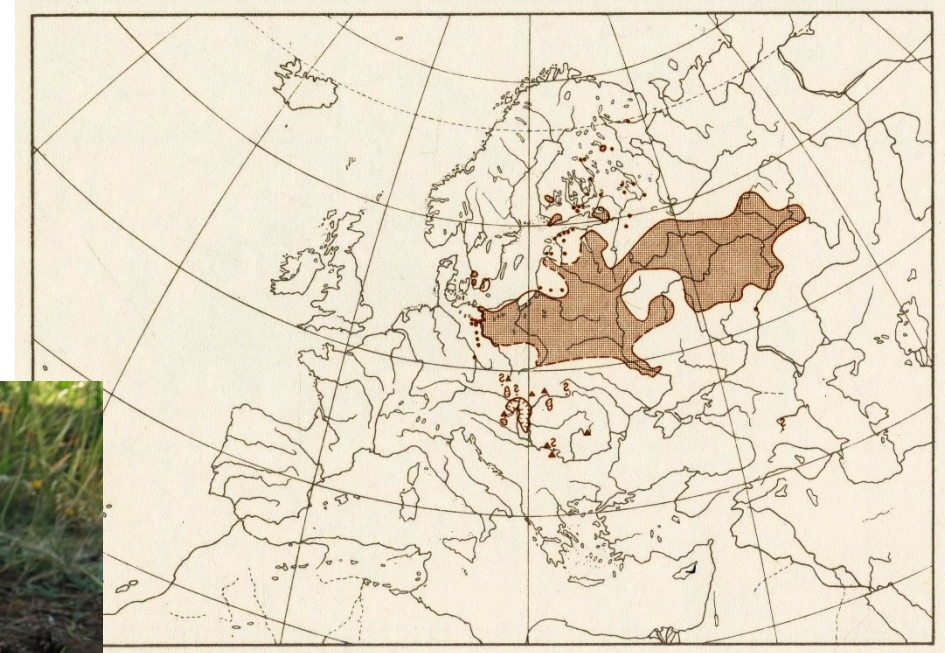


# Nížinné

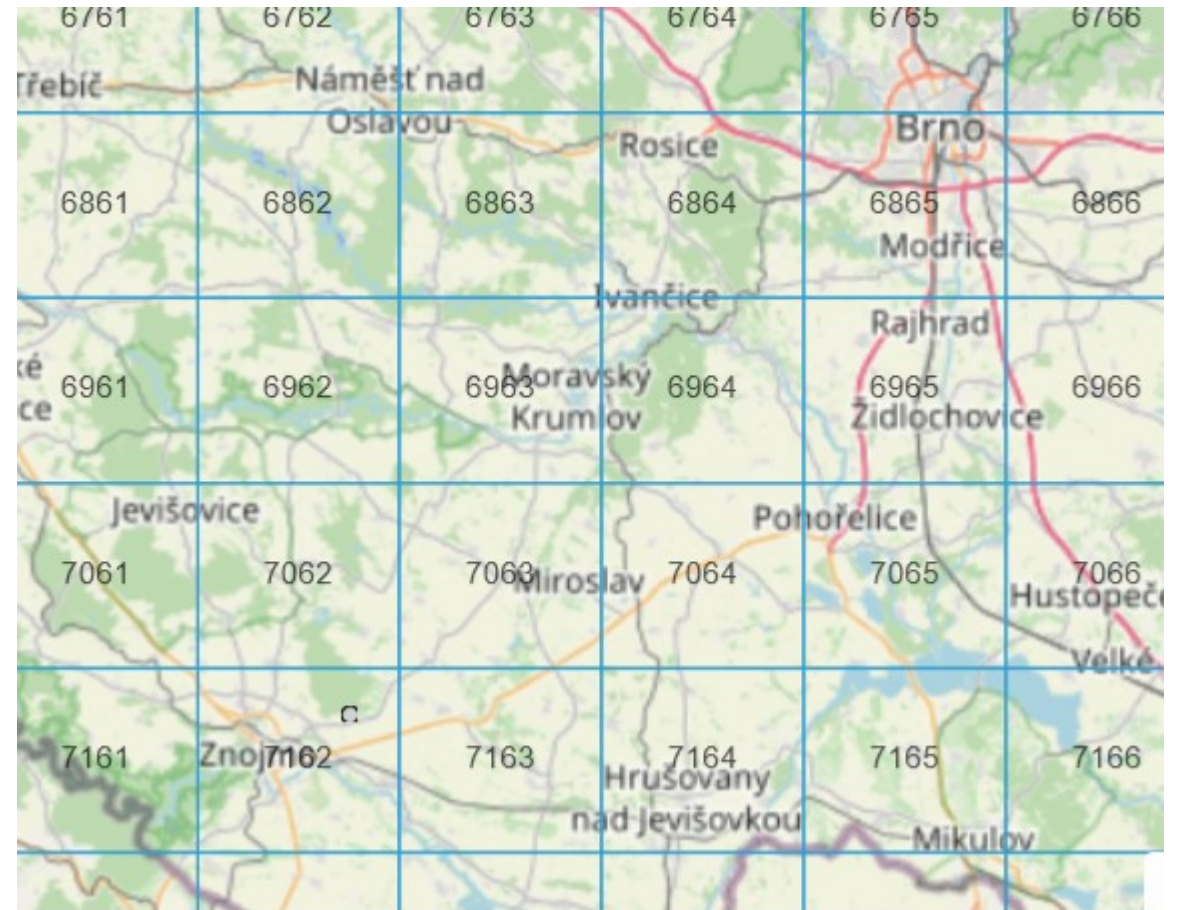
- *Dianthus arenarius* subsp. *bohemicus*
- *Potentilla psammophila*
- *Scilla bifolia* subsp. *rara*
- *Oenothera moravica*



# *Dianthus arenarius* subsp. *bohemicus*

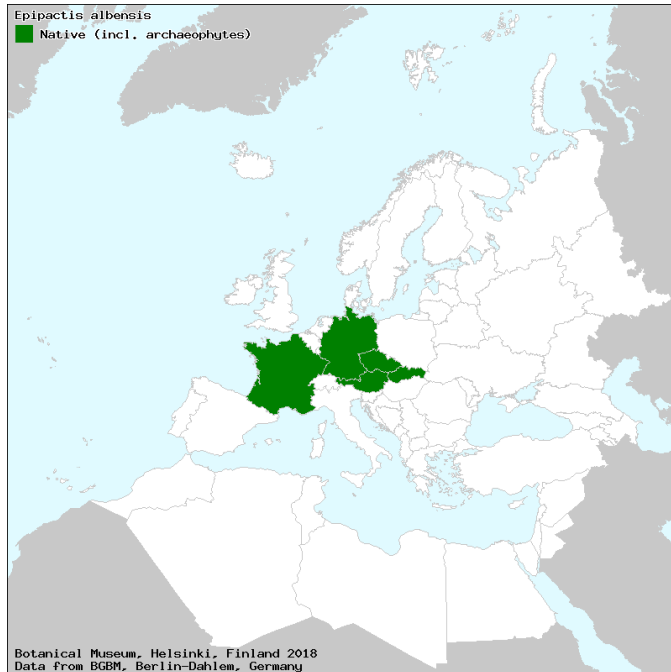


# *Scilla bifolia* subsp. *rara*



# Bývalé endemity

- *Epipactis albensis*
- *Potentilla lindackeri*
- *Symphytum bohemicum*



# Bývalé endemity

- *Coronilla moravica*
- *Dianthus lumnitzerii* subsp. *palavensis*
- *Melampyrum bohemicum*
- *Sorbus hardeggensis*
- *Sorbus quernea*

