

**Interspezifische und geographische
Differenzierungsmuster im Rahmen
des komplexes *Fagus sylvatica*
*/F. orientalis***

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Komplex *Fagus sylvatica* L. (*Flora Europaea*,
Greuter & Burdet 1981):

anerkannte Taxa

Fagus sylvatica ssp. *sylvatica*

Europa

Fagus sylvatica ssp. *orientalis* (*Fagus orientalis* Lipsky)

Thrakia, Ponthisches Geb., Amanus Geb., Grosser
Kaukasus, Kleiner Kaukasus, Elburs Geb.

(*F. hohenackeriana* Palibin?)

fragliche Taxa

? *Fagus moesiaca* (Maly) Czeczott

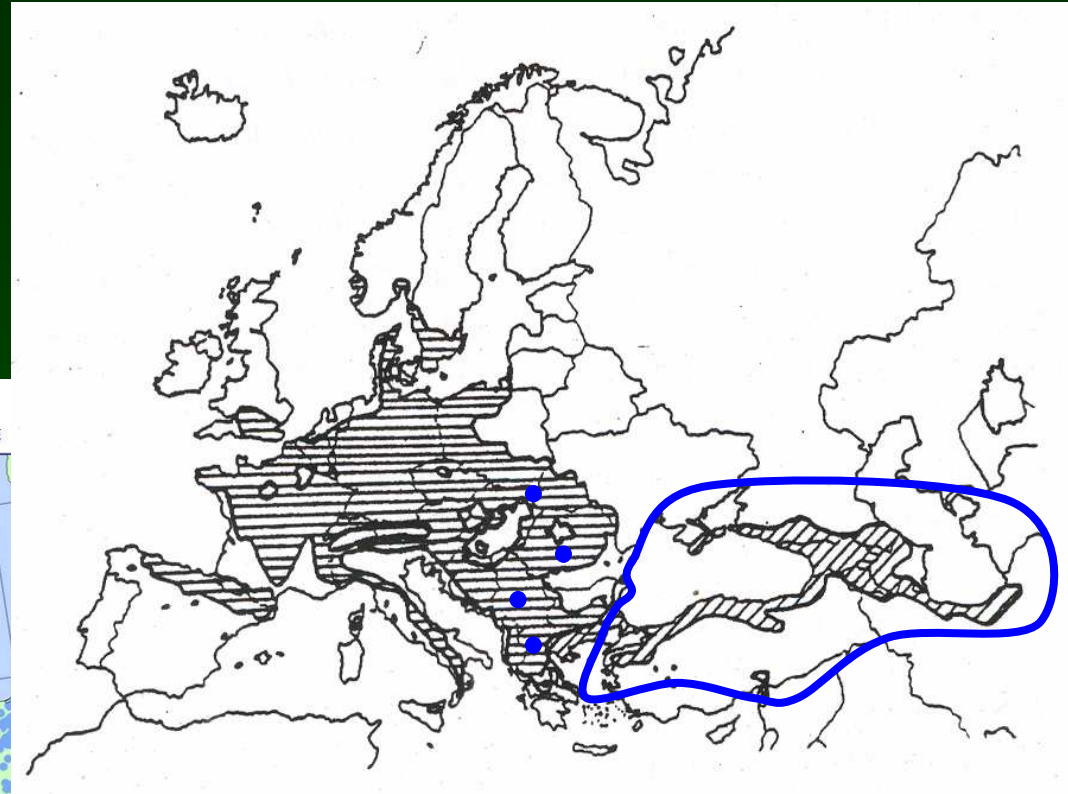
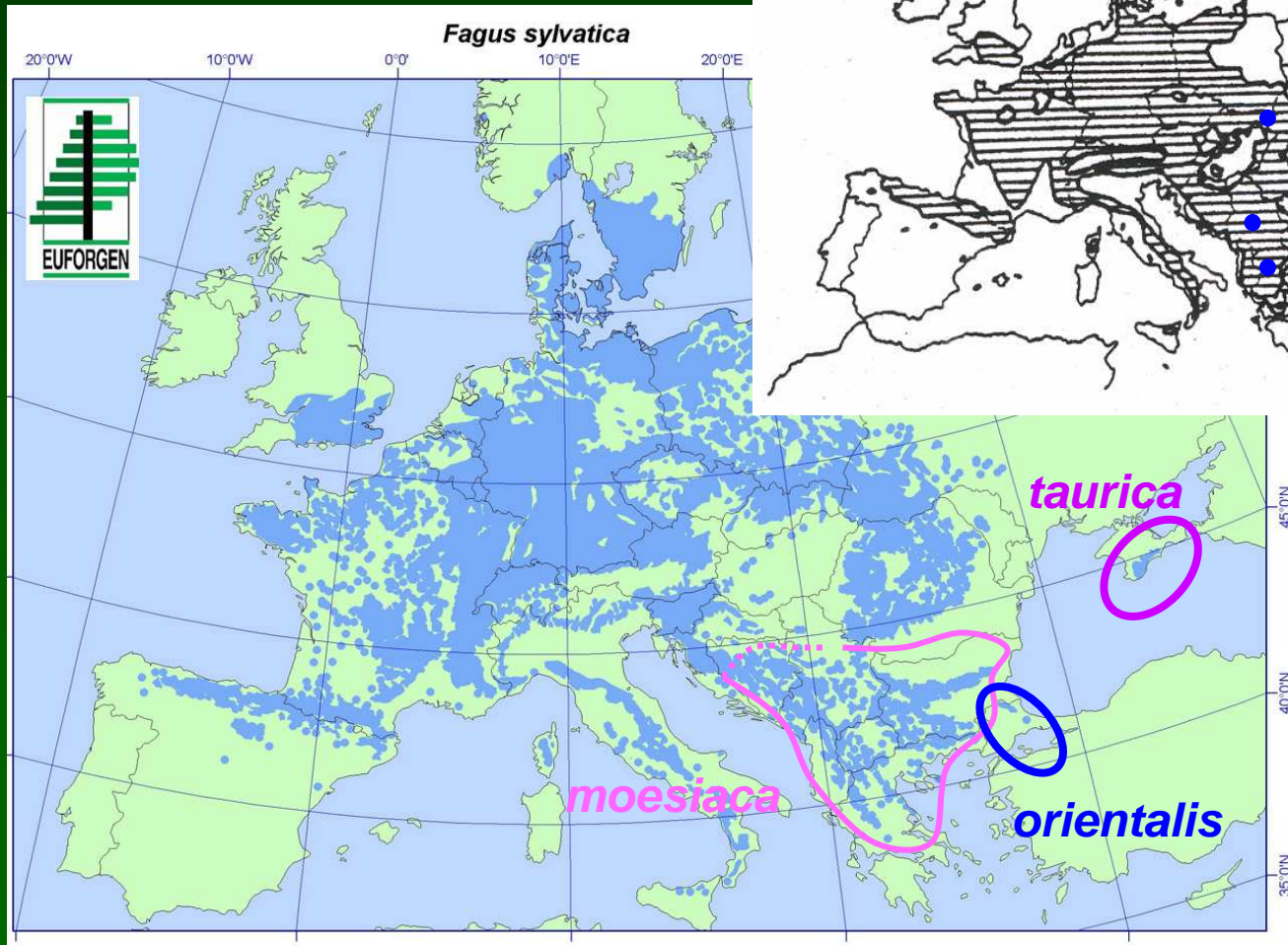
Serbien, Mazedonien, Bosna?, Bulgarien?

Griechenland? Albanien?

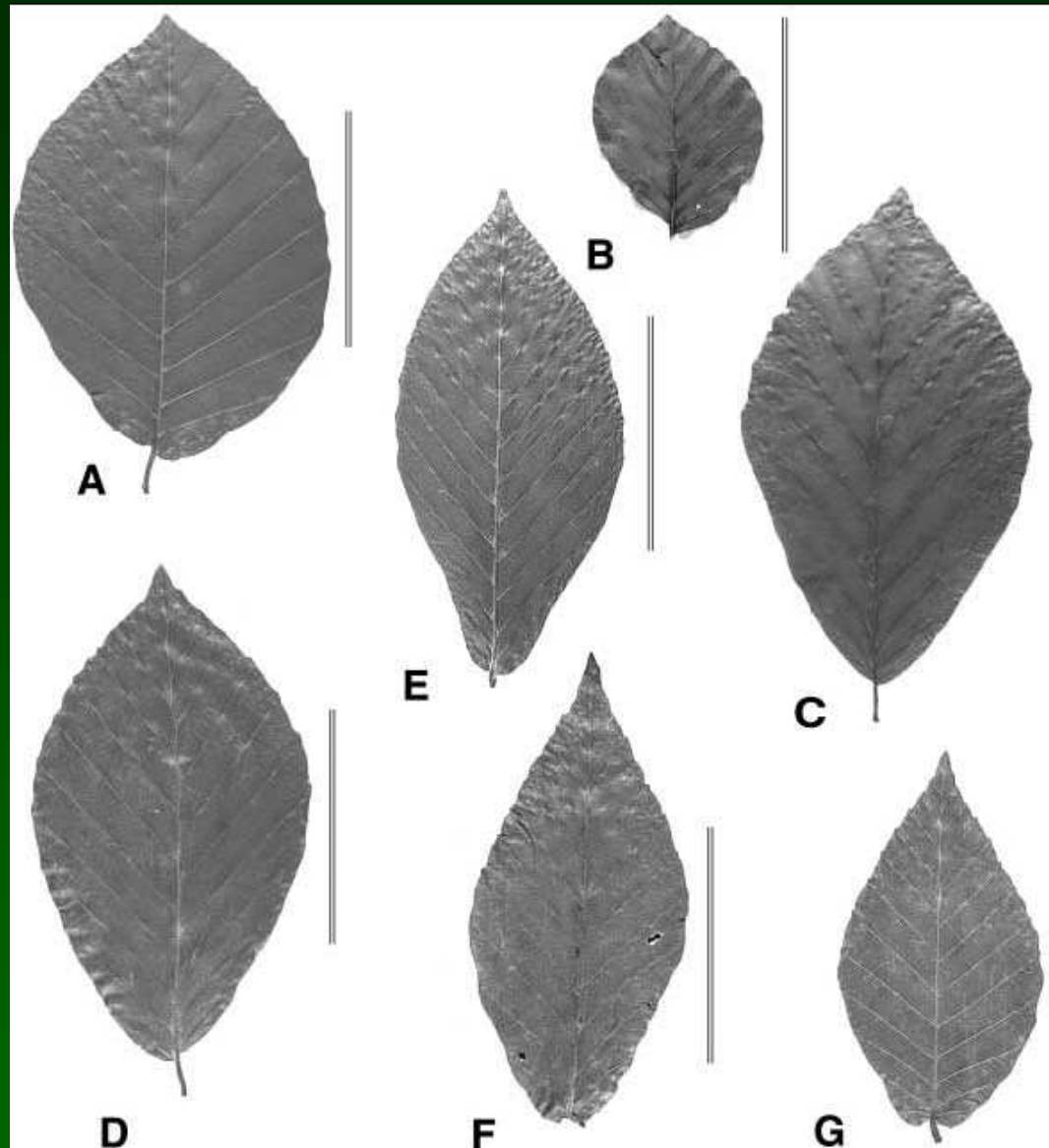
? *Fagus taurica* Popl.

Krim-Halbinsel

Verbreitung



F. orientalis-Bestände
in Südost-Europa –
Erbe des Osmanischen
Reiches?



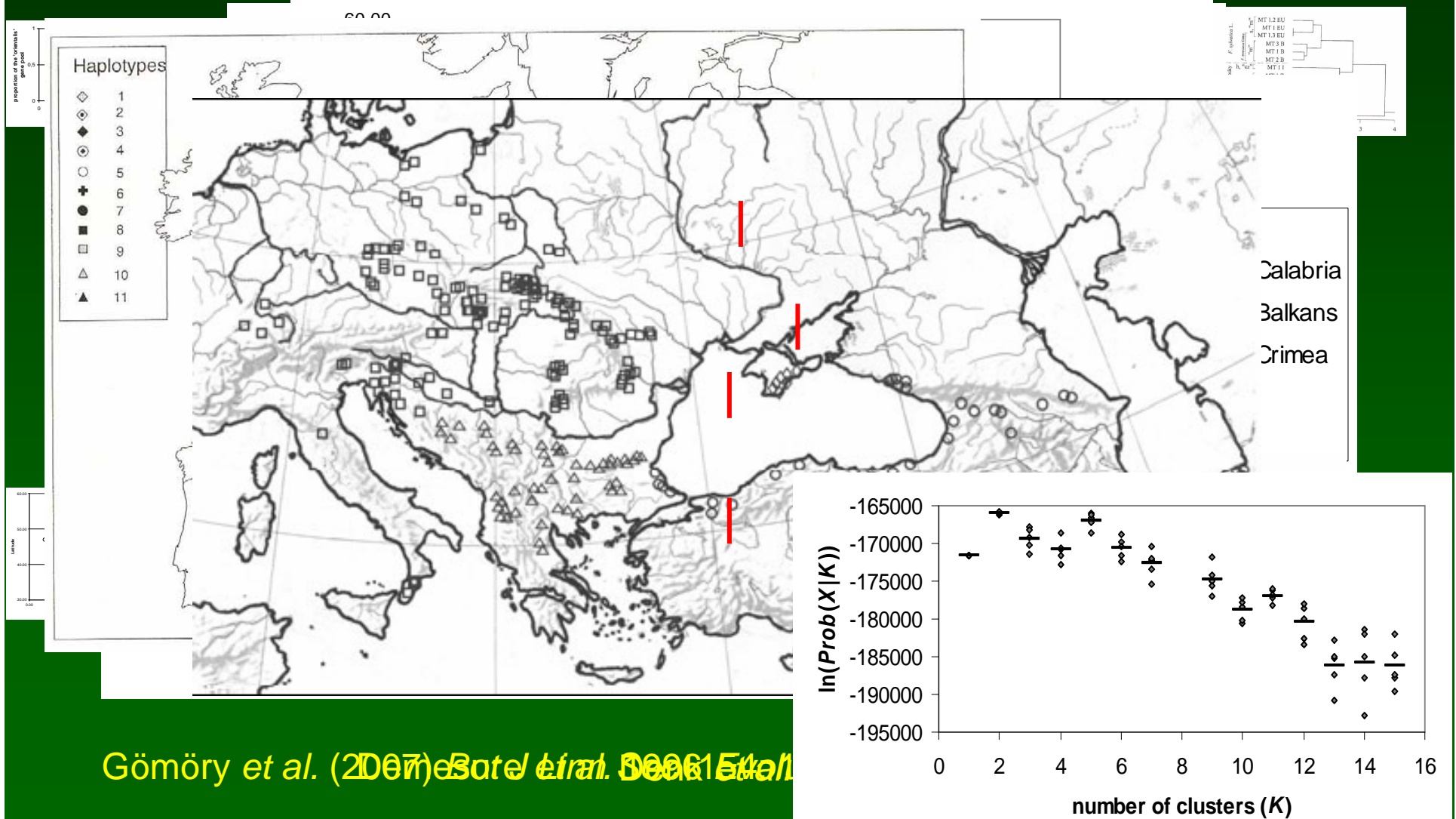
- A MT 1 EU. Nord-Spanien
- B MT 3 EU. Oesterreich
- C MT 3 EU. Oesterreich
- D MT 3 B. Bulgarien
- E MT 1 G. West-Georgien
- F MT 1 I. Nord-Iran
- G MT 1 I. Nord-Iran

Verschiedene Morphotypen der Buchen in West-Eurasien

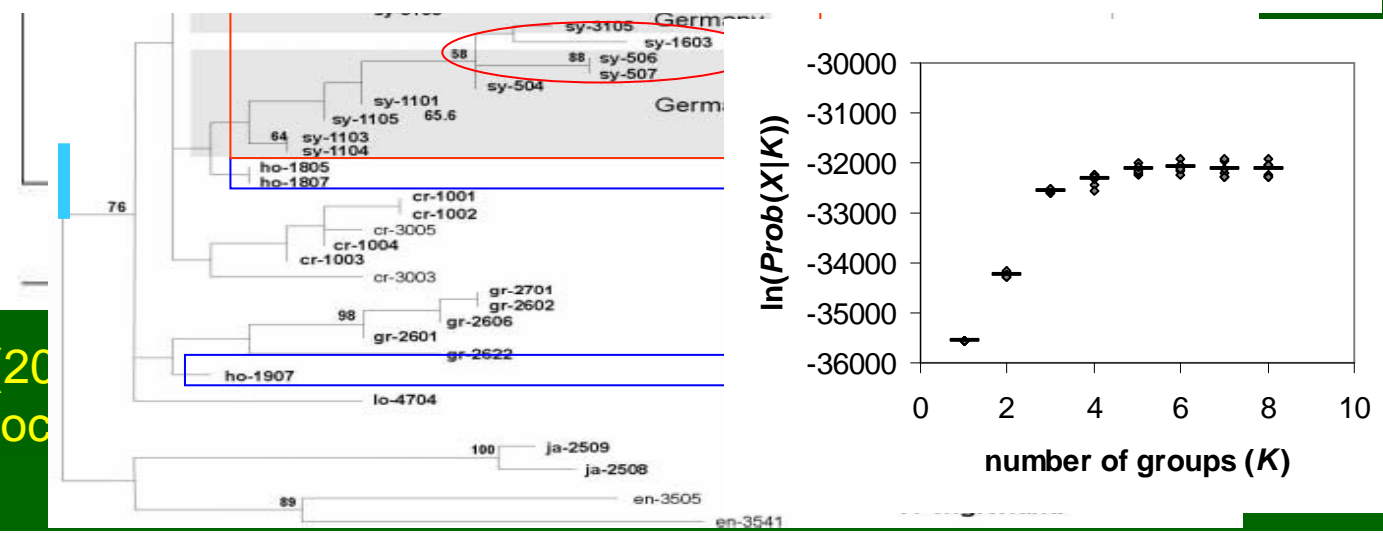
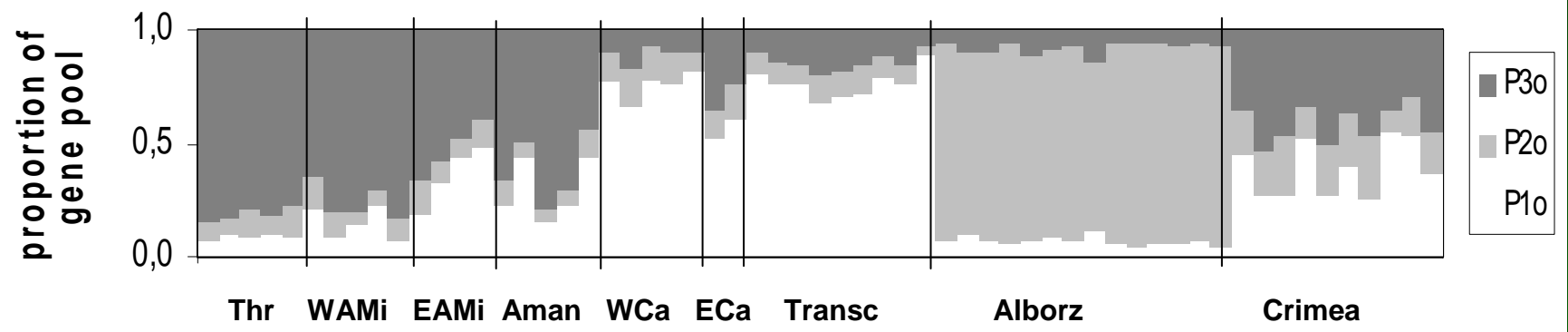
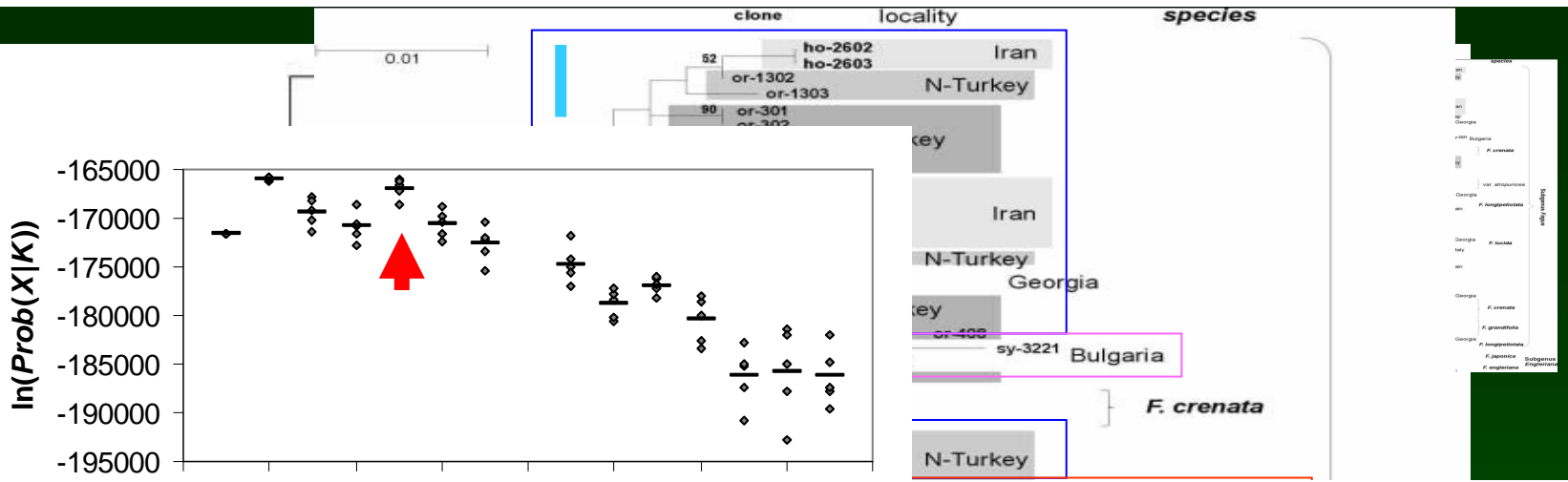
Denk *et al.* (2002) *Plant Syst Evol* 232: 213–236

Differenzierung *sylvatica* vs. *orientalis*

Bayesische Analyse (Pritchard et al. 2001) mit PCR-RFLP-Markern
12 Isoenzym-Loci, 279 Populationen

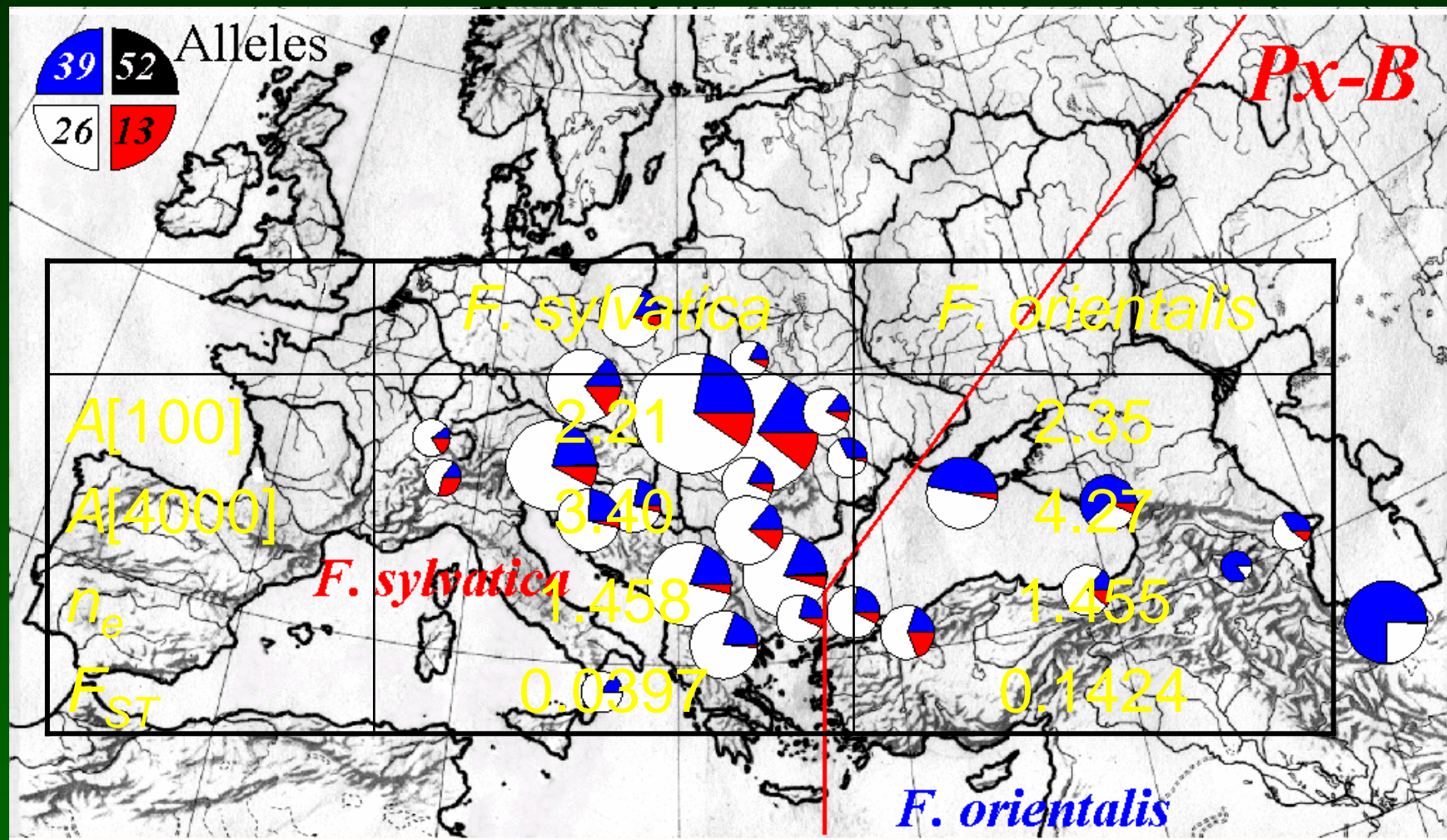


Gömöry et al. (2007) *Botanica Complutensis* 115: 1-11



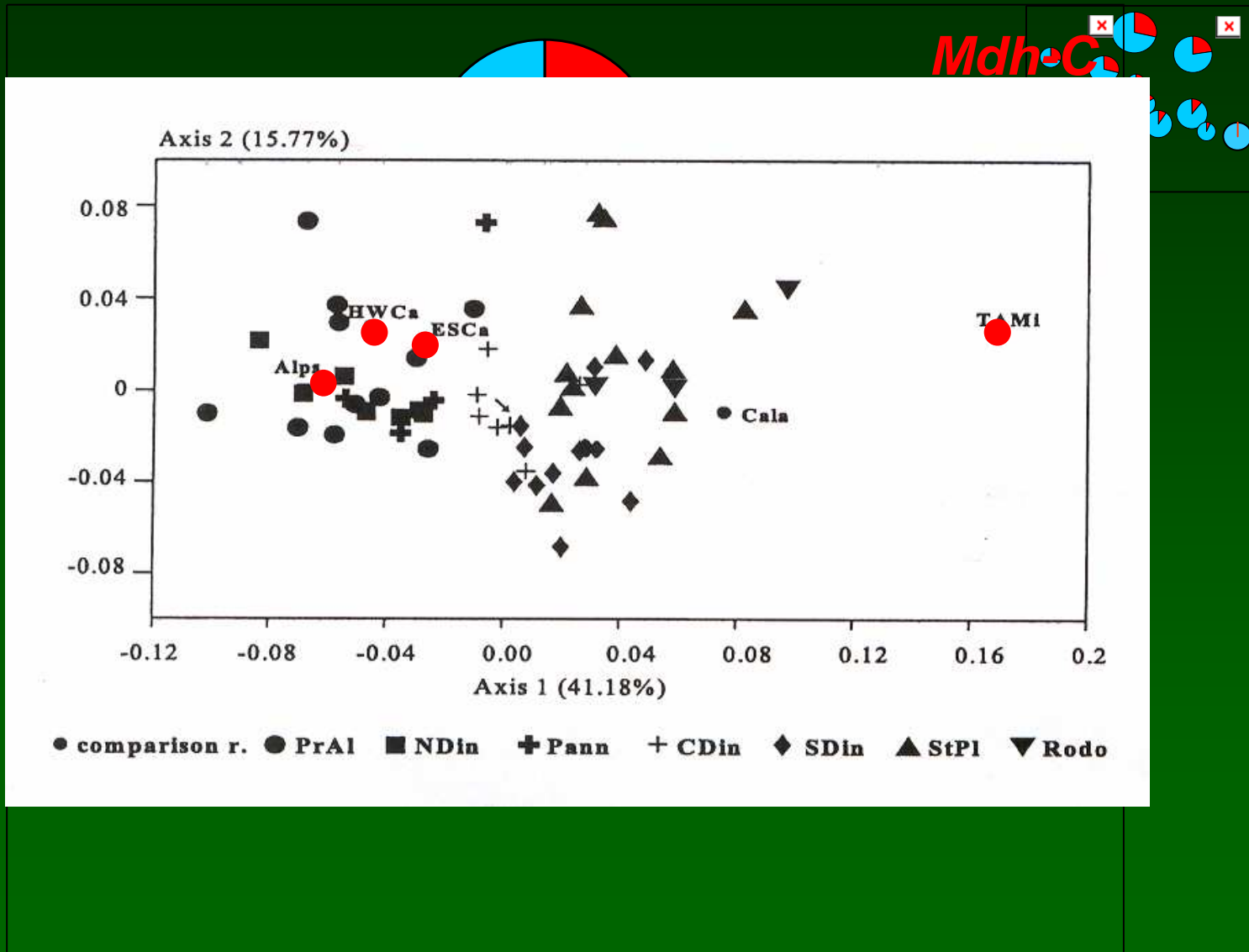
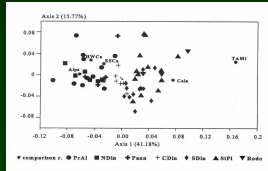
Denk et al. (2002)
 Plant Syst Evol
 232: 213–236
 Gömory et al. (2002)
 nrDNA ITS

Geographische Verteilung der genetischen Variation



Gömöry *et al.* (2007) *Bot J Linn Soc* 154: 165–174 + unpublizierte Daten
 12 Isoenzym-Loci, 279 Populationen

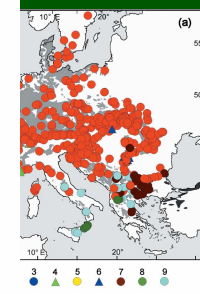
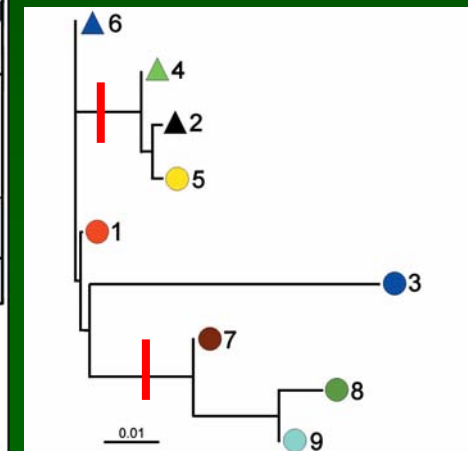
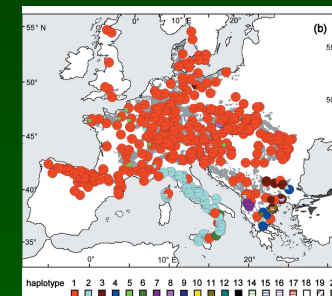
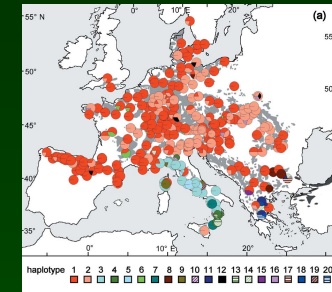
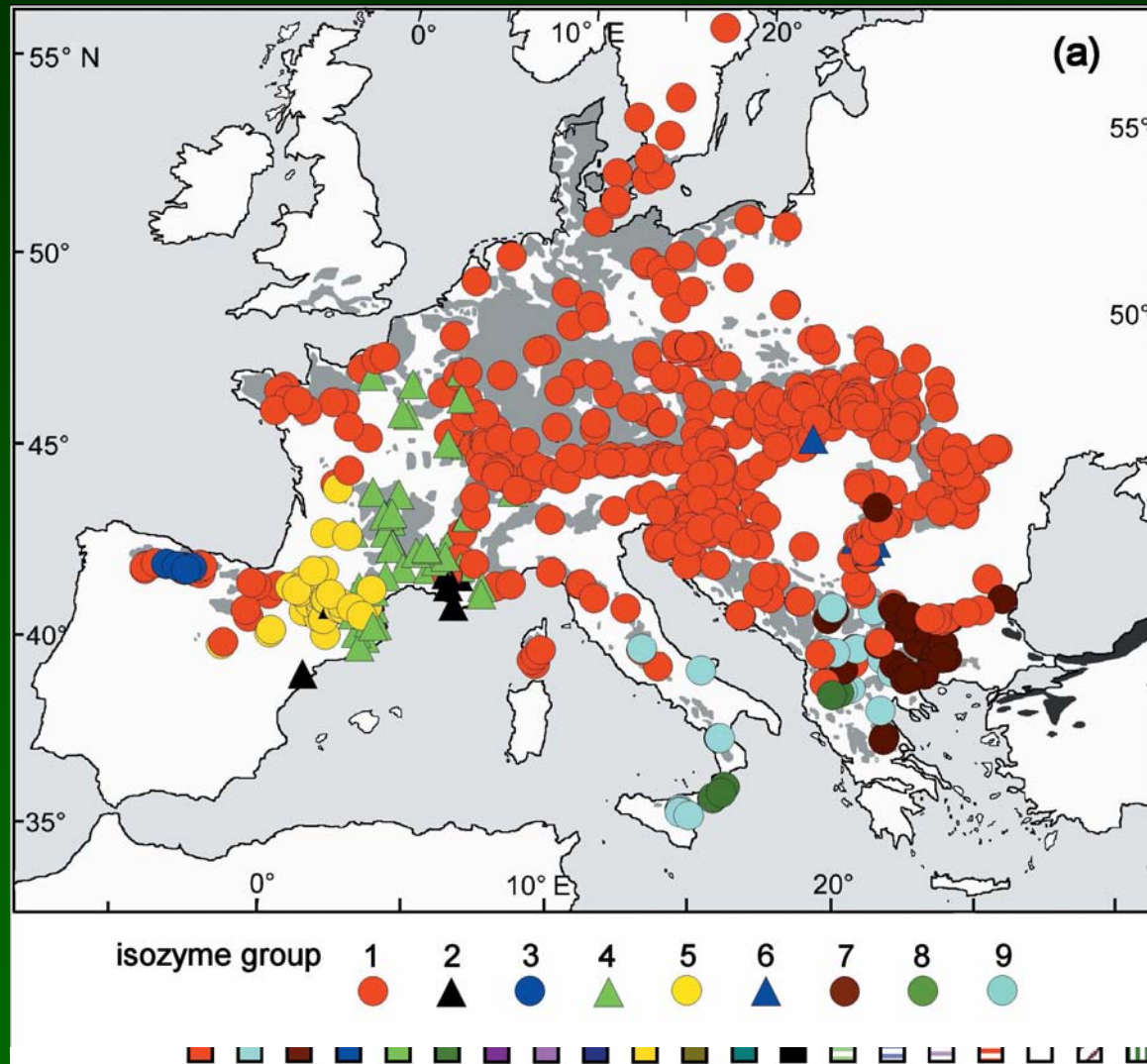
Fagus moesiaca – kann man die “Art” ausgrenzen? 12 Isoenzym-Loci, genetische Abstände, PCoA



Isolation by distance

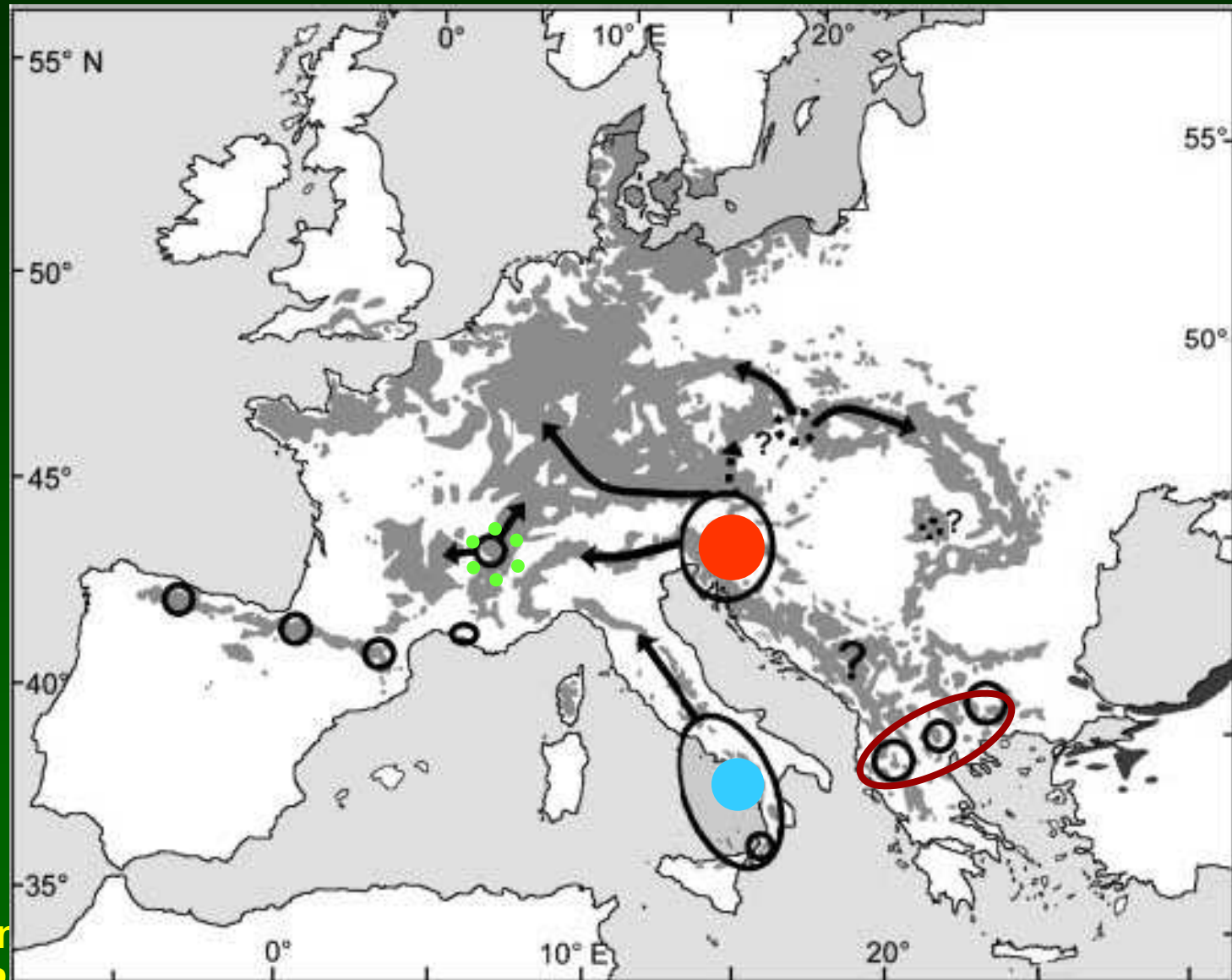
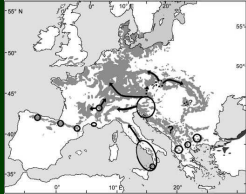
Fagus sylvatica s. str. – genetische Variation

7p50A PCRLEIL608 Populationen, SAMOVA



Vendramin in Magri et al. (2006) *New Phytologist* 171: 199–221
 Geburek/Girommaglio/Magri (2006) *New Phytologist* 171: 197–221
 Vettori et al. (2004) *Theor Appl Genet* 109: 9–19

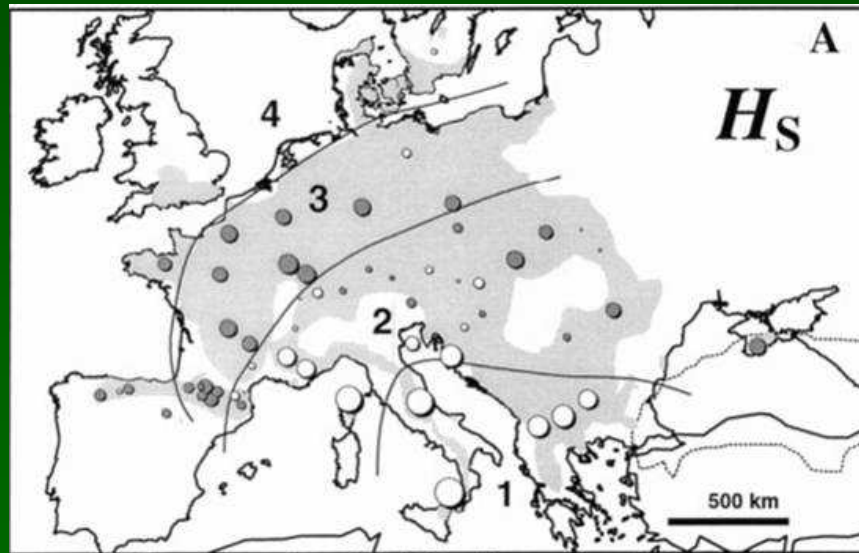
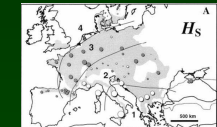
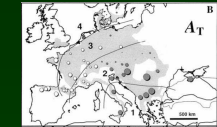
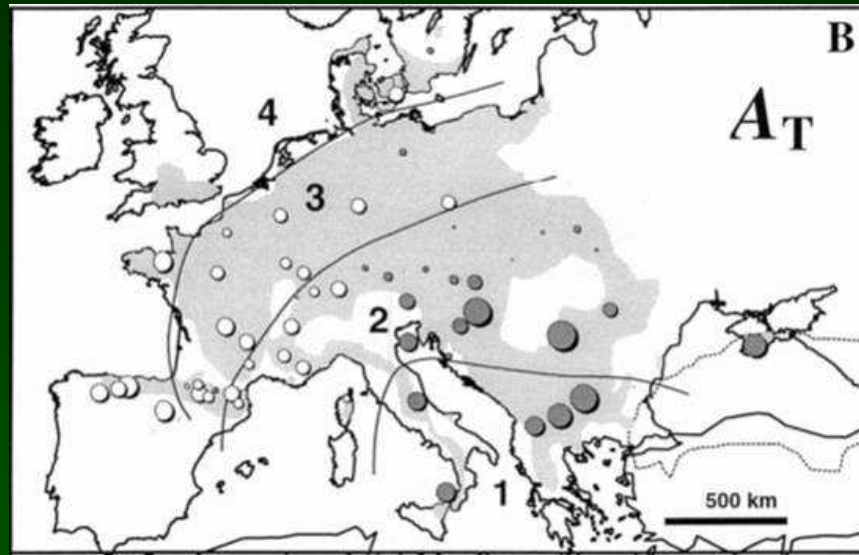
nacheiszeitliche Kolonisierung (FOSSILVA)



- ▲ Makrofossilien
- C¹⁴ datiertes Pollen > 2%

Magri *et al.* (2006) *New Phytologist* 171: 199–221

Genetische Abdrücke der postglazialen Wanderung



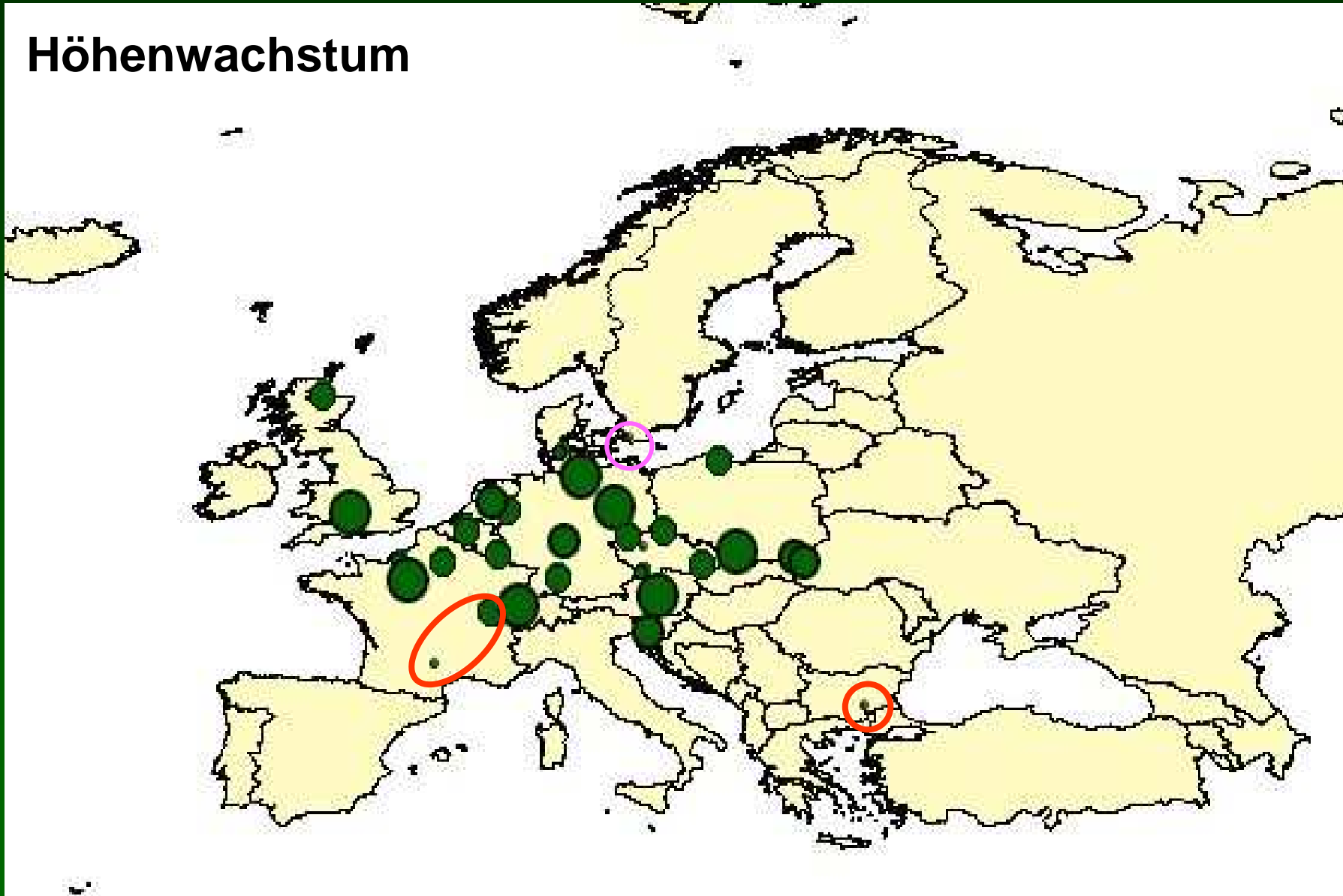
Caveats für die Provenienzforschung – Unterschiede in adaptiven Merkmalen müssen nicht unbedingt adaptiv sein

- taxonomische Differenzen innerhalb des Verbreitungsgebiets (Balkan-Herkünfte)
- Ursprung von verschiedenen Refugien (Mitteleuropa vs. Italien bzw. Südfrankreich)
- niedrigere anfängliche allelische Vielfalt in den nördlichen (westlichen?) marginalen Populationen

Internationales Buchen-Provenienzversuch BFH 1998

Fläche Tale/Slowakei

Höhenwachstum



Danke für die Aufmerksamkeit