

Dendrologian Seuran
koivuseminaari
Tieteidentalo 29.11.2024

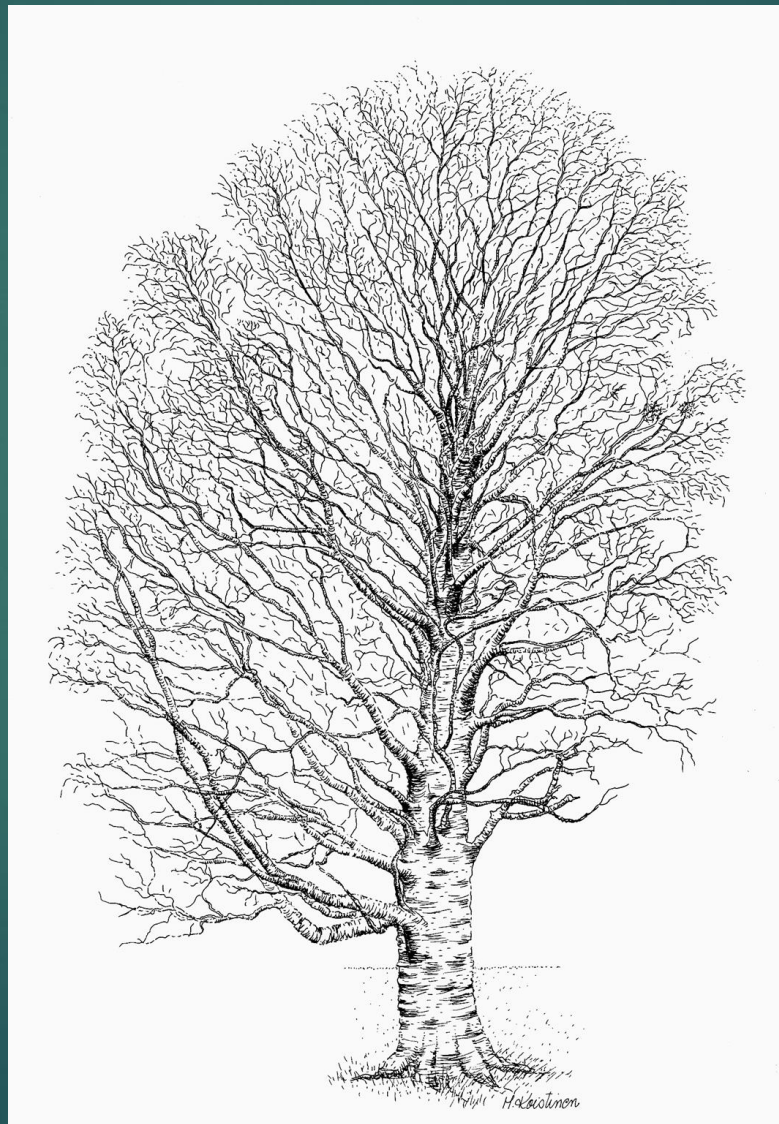
Koivun suku

Henry Väre

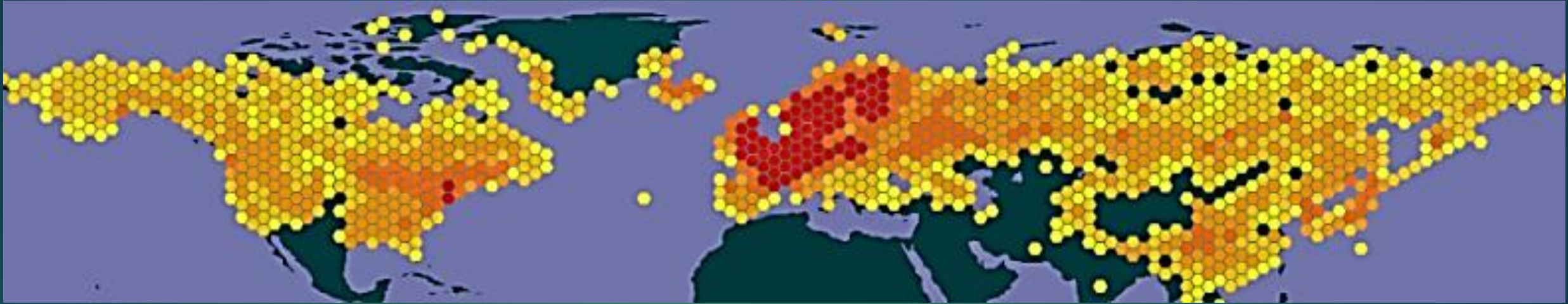
LTKM, Kasvimuseo
Dendrologian Seura Ry.

Kuvat Henry Väre ellei
toisin mainita.

Viereiset kuvat Marja Koistinen

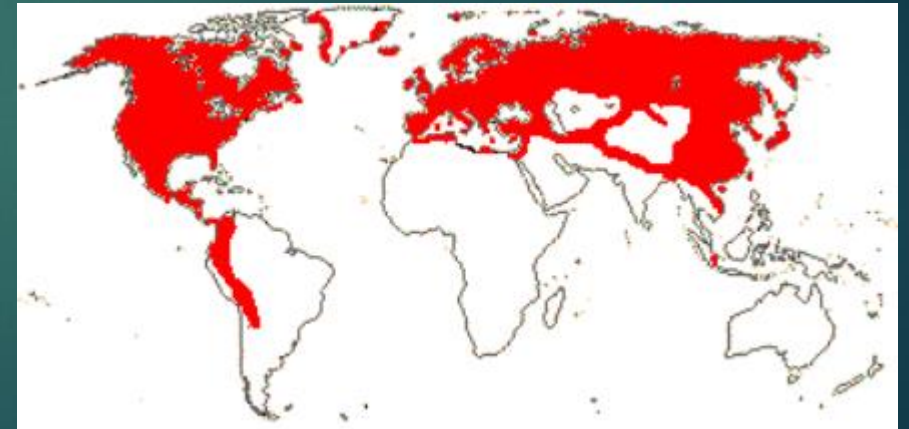


Betula

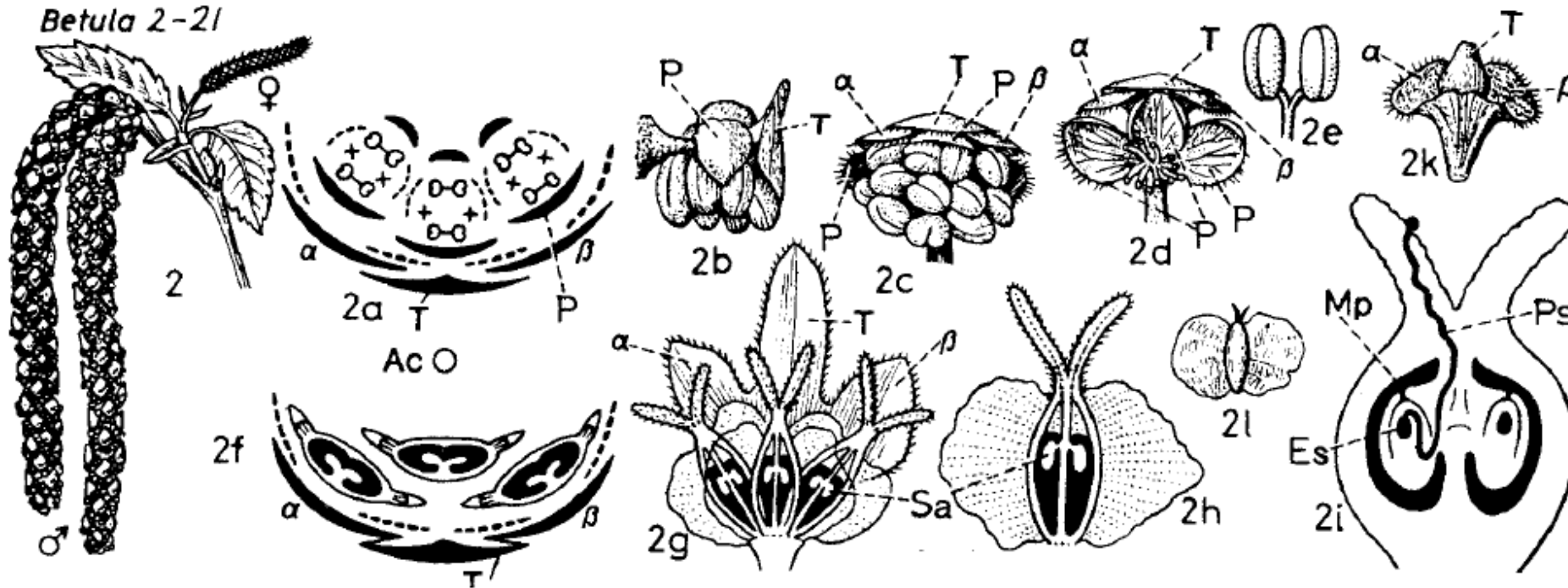


Alnus ja *Betula*
erkanivat
noin 25-20 Ma

Betulaceae
noin 94-83 Ma
Alnus Miller - B
Betula L. - B
Carpinus L. - C
Corylus L. - C
Ostrya Scopoli - C
Ostryopsis Decaisne - C



Koivujen kukinto ja kukat



Kukinta lehtien puhjettua; hedenorkko riippuva, pitkä; eminorkko pysty – riippuva, lyhyt; hedekukan kehä vähäinen; emikukka kehätön.

Hedelmänorkko pähkylöiden karistessa hajoava; norkkosuomut 3–8 mm, 3-liuskaisia; hedelmä siivekäs, litteä pähkylä.

Koivujen suvussa on noin 65 lajia,
pääosin temperaattisessa vyöhykkeessä ja
sen vuoristoissa, boreaalisessa
vyöhykkeessä ja eräitä kasvaa
subarktikumissa



					Keski-				
Eurooppa	Kaukasus	Venäjä	Siperia	Himalaja	Aasia	Kiina	Korea	Japani	PAm
8	4	14	12	7	12	29	7	12	11

Usean Keski- ja Itä-Aasian lajin levinneisyys
on hyvin suppea.

Keski-Aasiasta 6

Betula falcata
Betula karagandensis
Betula potamophila
Betula psammophila
Betula saviczii
Betula zinserlingii

Kiinasta 22

Betula bomiensis
Betula buggsii
Betula calcicola
Betula cylindrostachya
Betula fargesii
Betula gynoterminalis
Betula hainanensis
Betula honanensis
Betula kweichowensis
Betula luminifera
Betula mcallisteri
Betula potaninii
Betula skvortsovii
Betula sunanensis
Betula tianschanica
Betula wuyiensis

Japanista 5

Betula chichibuensis
Betula corylifolia
Betula globispica
Betula gmelinii
Betula grossa



Kiina alnoides
Japani
maximowicziana

nana
pendula
platyphylla
populifolia

Pam nigra
nigra

PAm lenta
PAm michauxii
vähäkoivu

Kiina calcicola
Japani chihibuensis

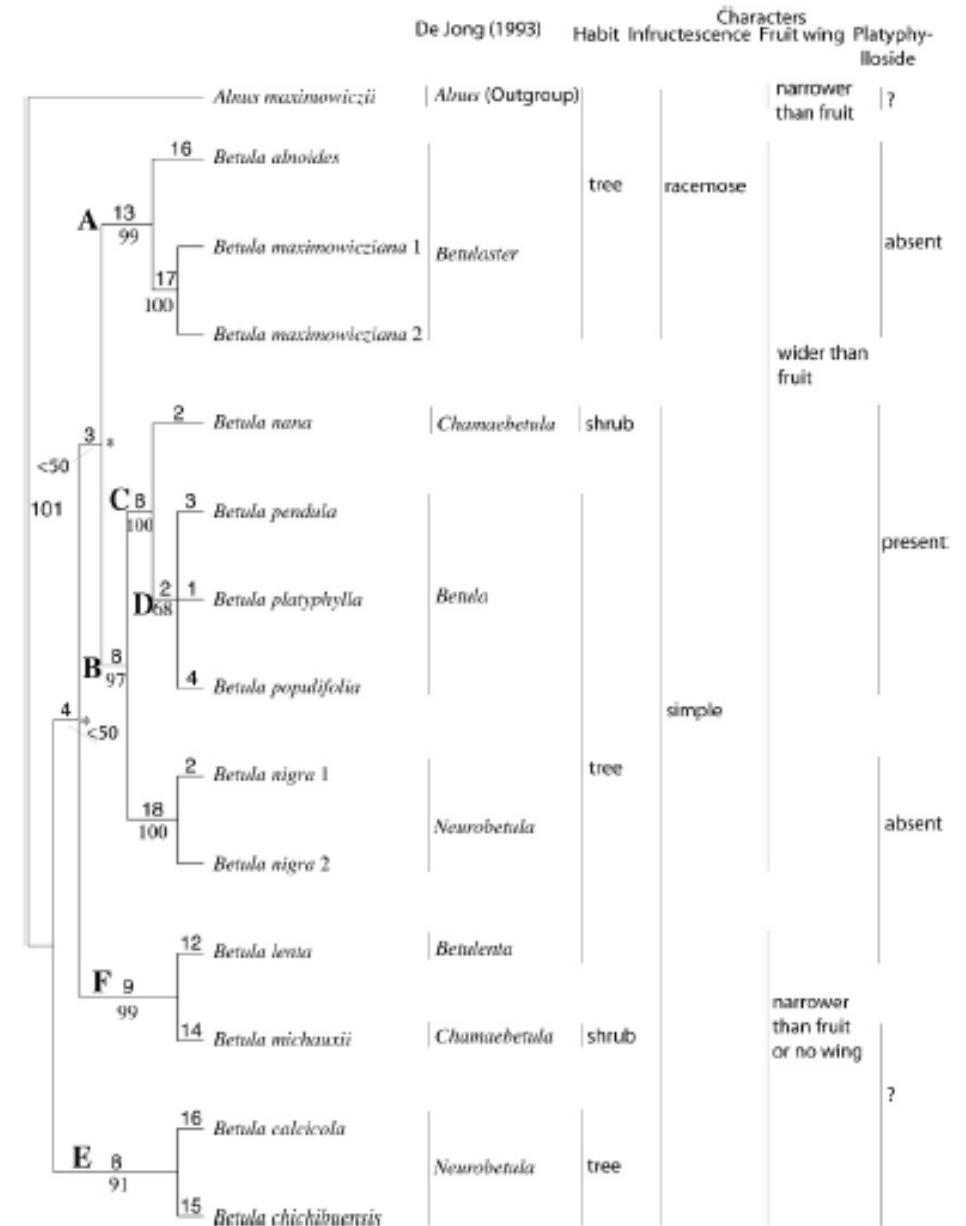
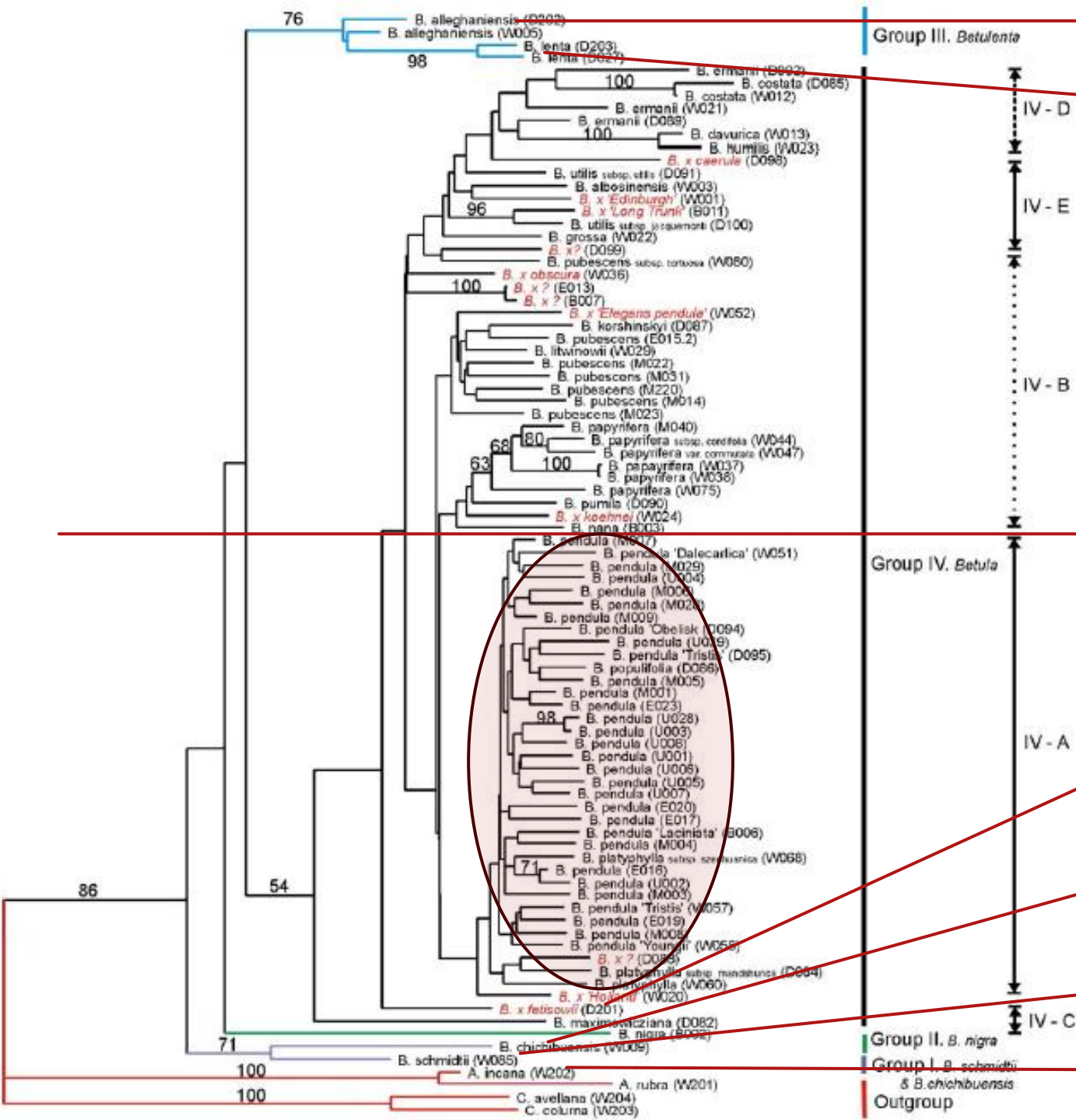


FIG. 2. One of eight MP trees of 276 steps based on the combined data set of the *Nia* gene and rDNA ITS. CI = 0.88 and RI = 0.82. Asterisks indicate nodes absent in the strict consensus. Numbers above and below branches are base substitutions and bootstrap percentages of 1000 replicates, respectively. Bold letters A–F and taxonomic scheme as for Fig. 1.



B. alleghaniensis,
keltakoivu

B. lenta,
sokerikoivu

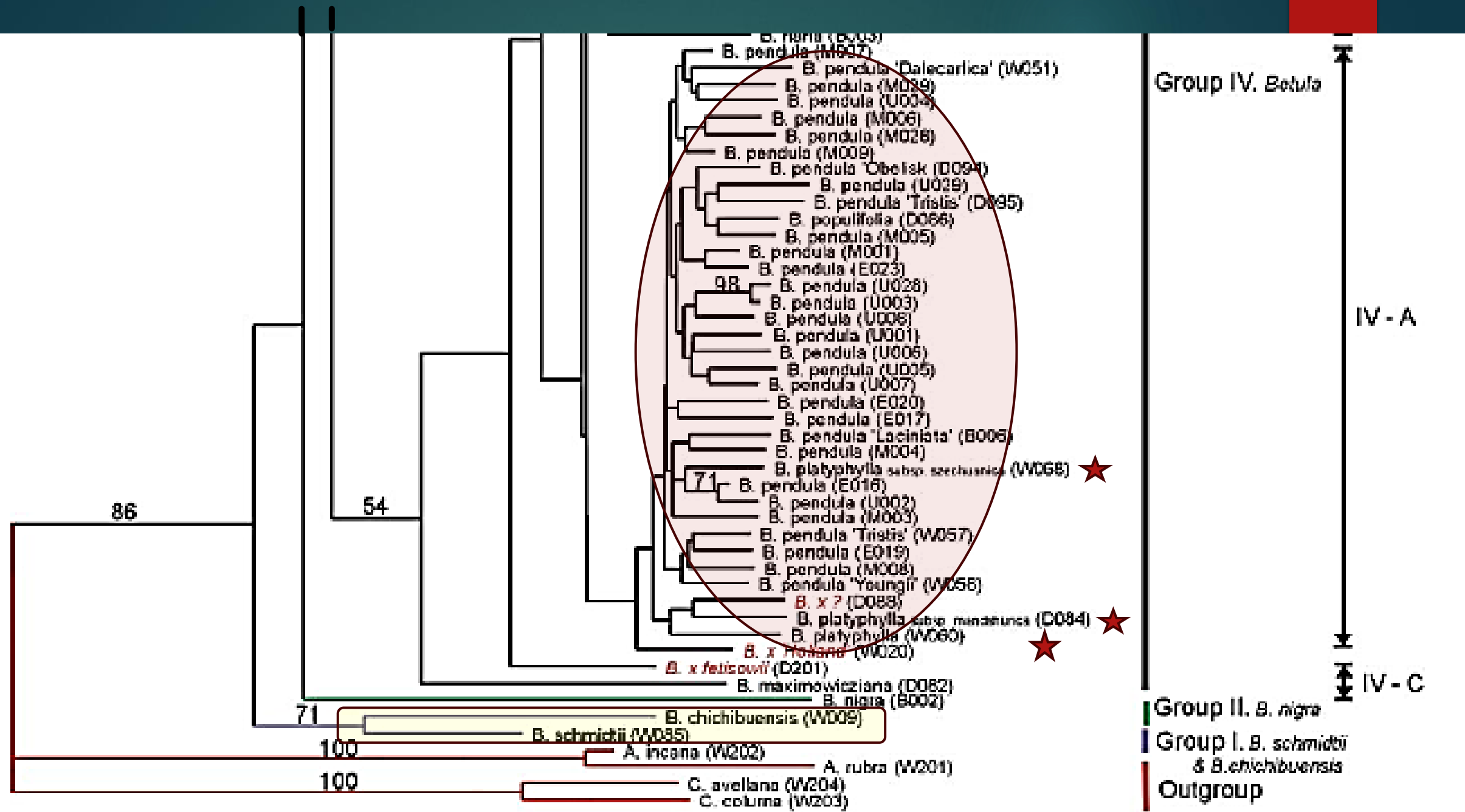
Schenk ym. 2008: Phylogenetic relationships in *Betula* (Betulaceae) based on AFLP markers. *Tree Genetics & Genomes* 4: 911-924.

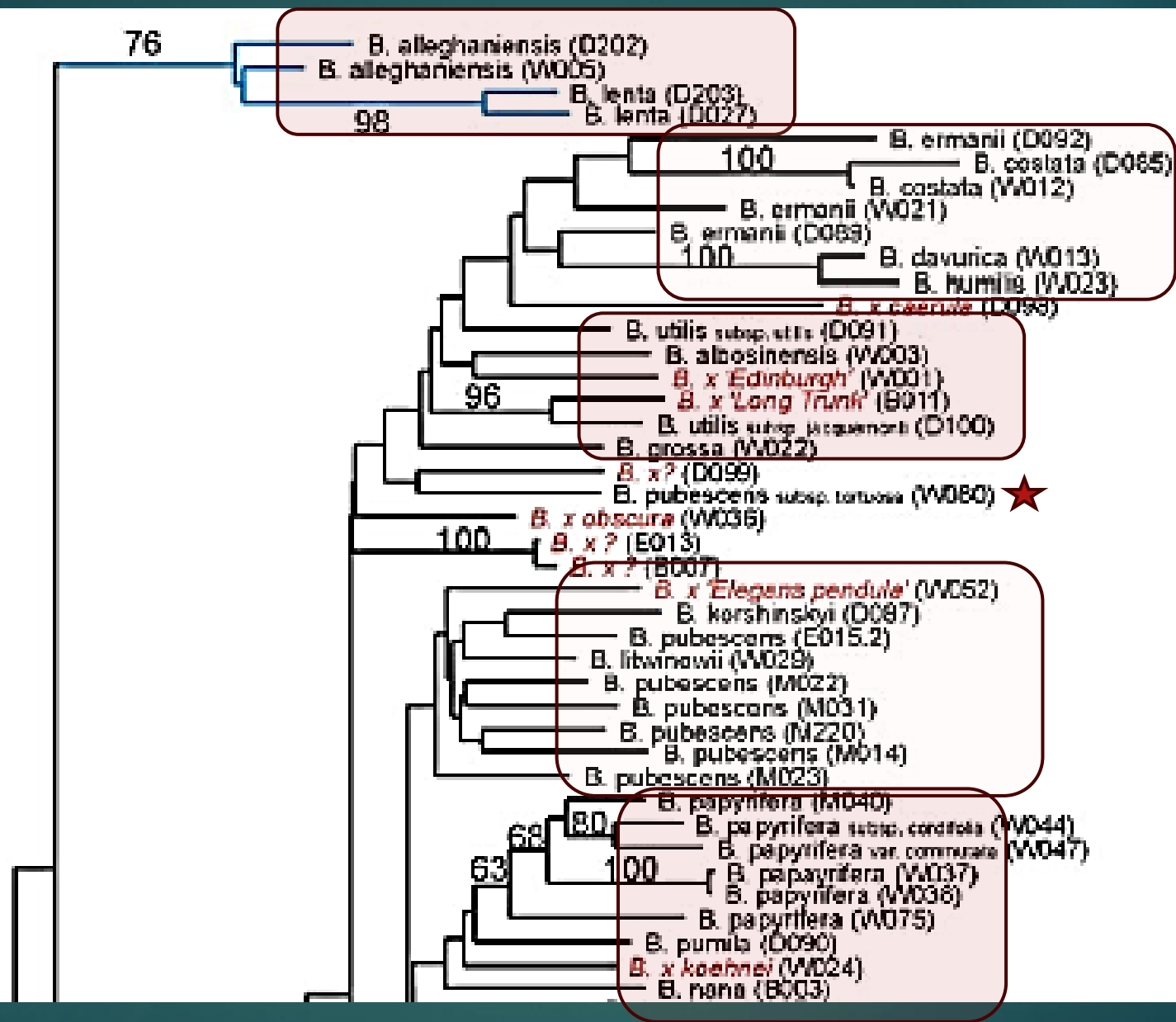
B. maximowicziana,
monarkkikoivu Japani

B. nigra,
mustakoivu PAm

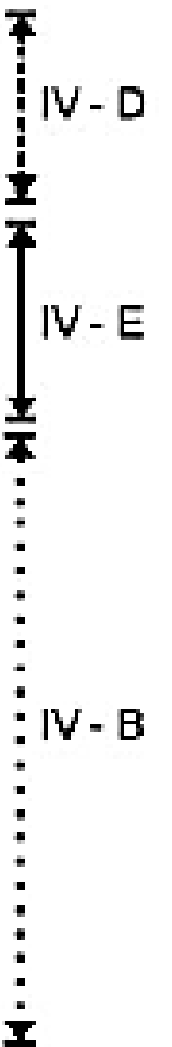
B. chichibuensis,
ruotokoivu Japani

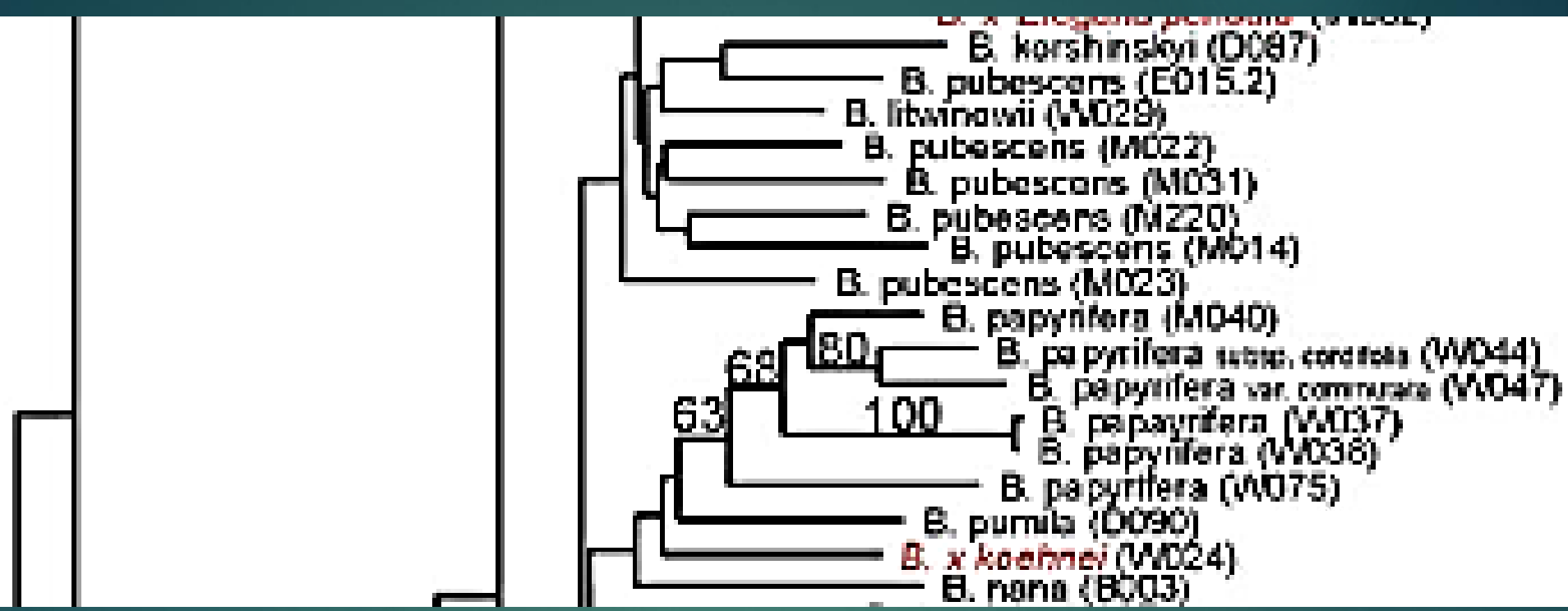
B. schmidtii,
Kaukoitö - Japani

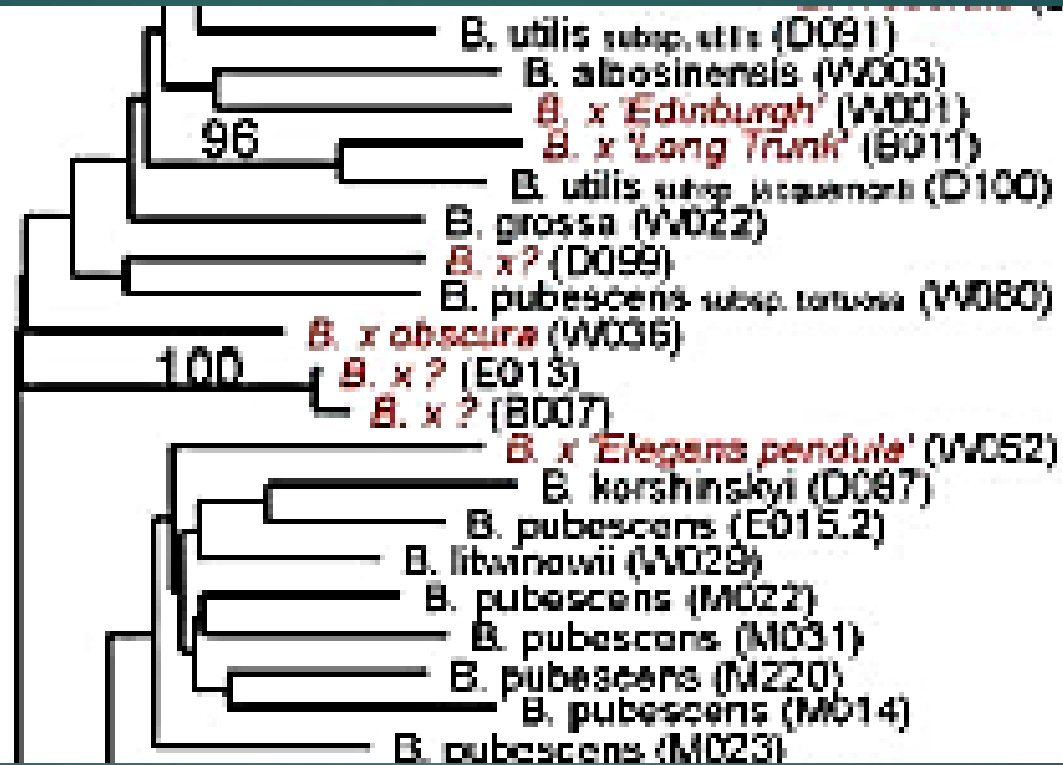




Group III. *Betula*







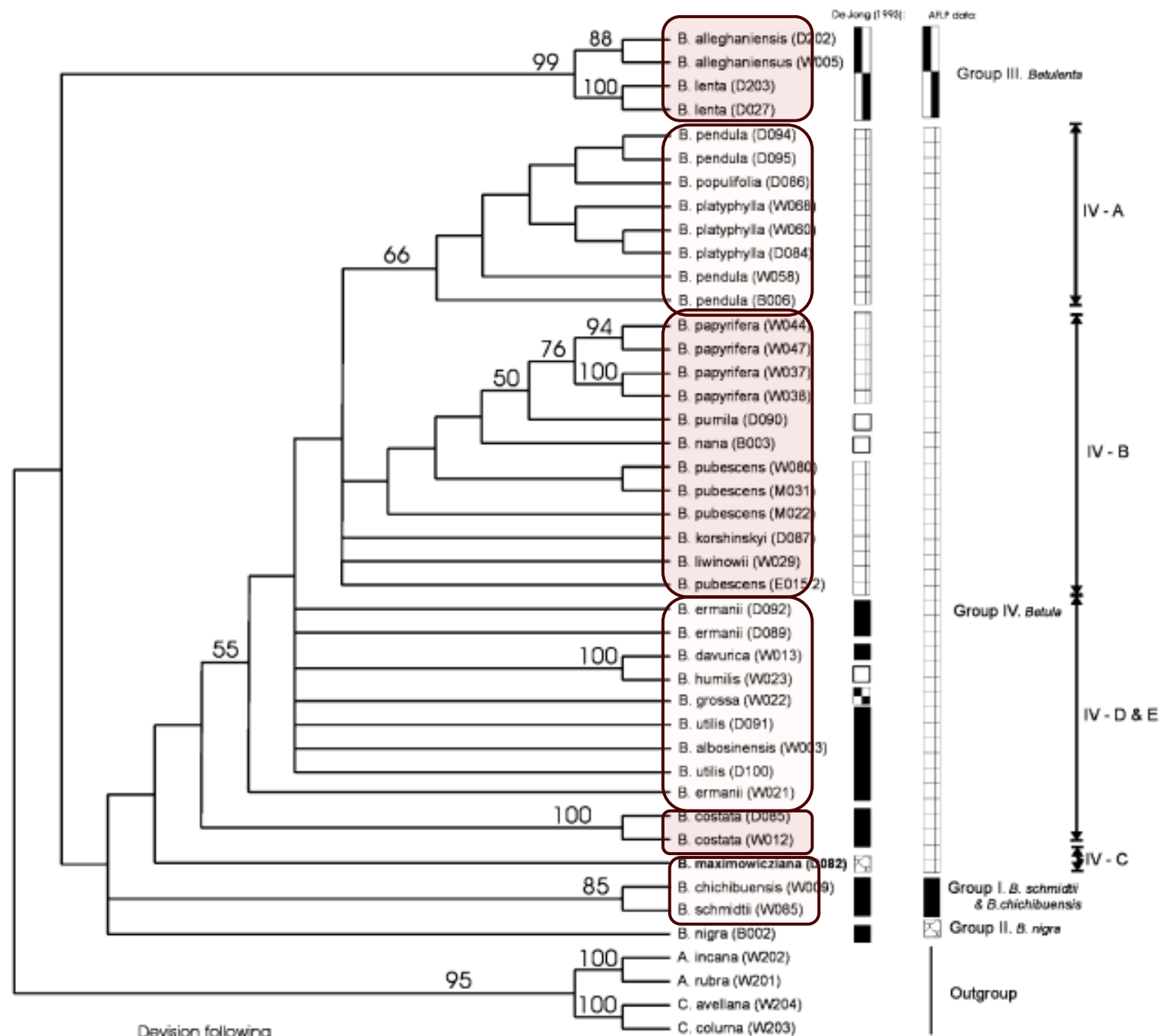
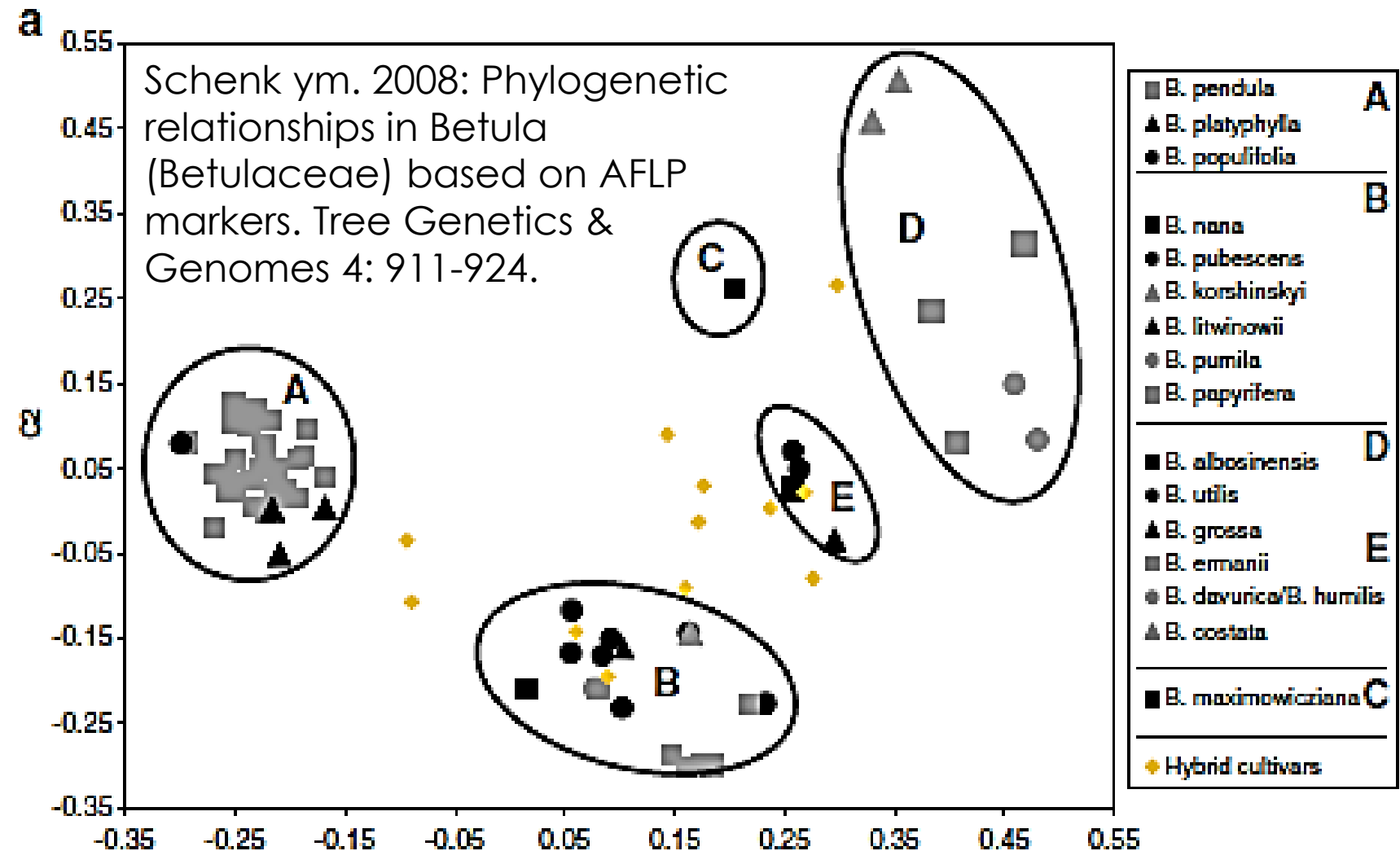


Fig. 2 a Principal coordinates plot of the *Betula* accessions in subgenus *Betula* (group IV; see Fig. 1) for the first two principal components estimated with 234 AFLP markers. **b** STRUCTURE analysis of the *Betula* accessions in subgenus *Betula* (group IV) inferred from AFLP markers. In this figure, each accession is represented by a vertical bar partitioned into $K=3$ colored segments (green, blue, and red). At $K=2$, the accessions in green were separated from the rest. At $K=3$, the blue group was separated from the rest (in red). The corresponding groups (IV-A, B, and C+D) from **a** are displayed above the bars



B. alleghaniensis keltakoivu



https://en.wikipedia.org/wiki/Betula_alleghaniensis



B. lenta, sokerikoivu



https://en.wikipedia.org/wiki/Betula_lenta

<https://www.prairieresto.com/Trees%20and%20Shrubs/betula-alleghaniensis>



B. fruticosa,
siperianpensaskoivu



<https://www.gbif.org/species/5332101>



B. humilis, euroopanpensaskoivu



[https://www.gbif.org/species/
5331629](https://www.gbif.org/species/5331629)



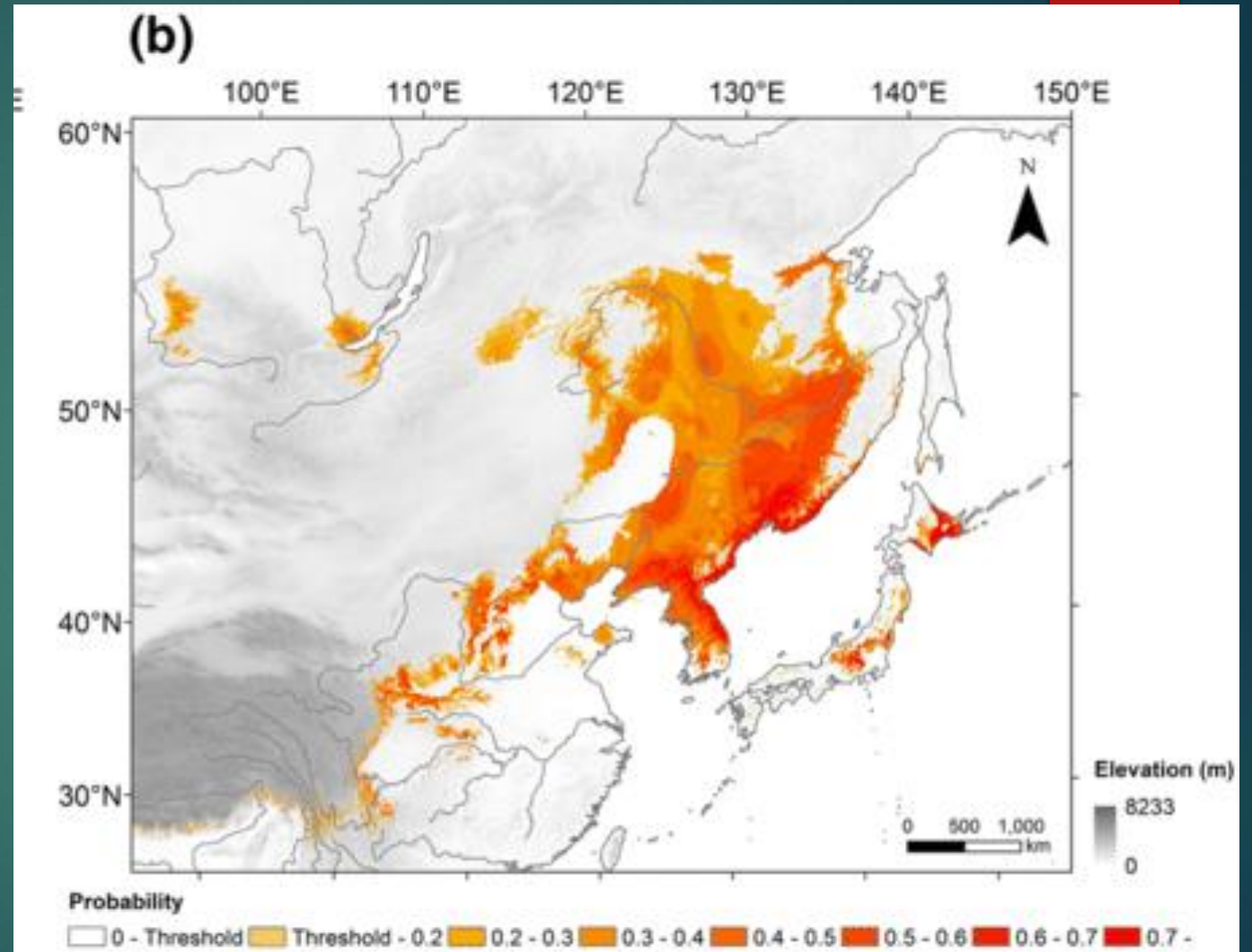
B. ermanii,
kivikoivu



<https://www.gbif.org/species/5332231>



B. davurica, dahuriankoivu



Shitara 2018 Plant
Ecology



<https://www.gbif.org/species/5331640>

B. glandulosa,
beringinvaivaiskoivu





<https://www.gbif.org/species/5332004>

B. nana,
vaivaiskoivu



B. occidentalis,
jokikoivu



https://en.wikipedia.org/wiki/Betula_occidentalis



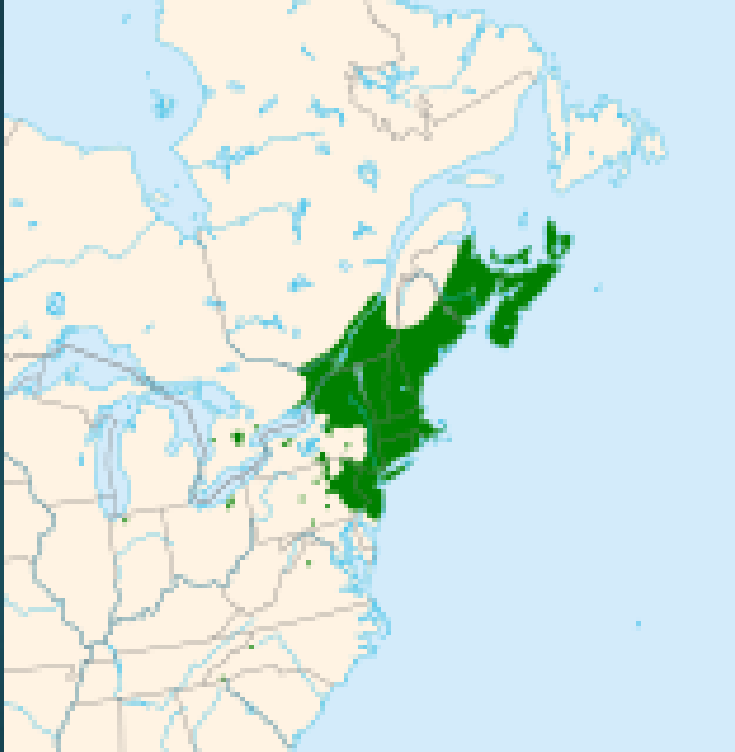
B. papyrifera, paperikoivu



https://commons.wikimedia.org/wiki/File:Betula_papyrifera_range_map_2.png



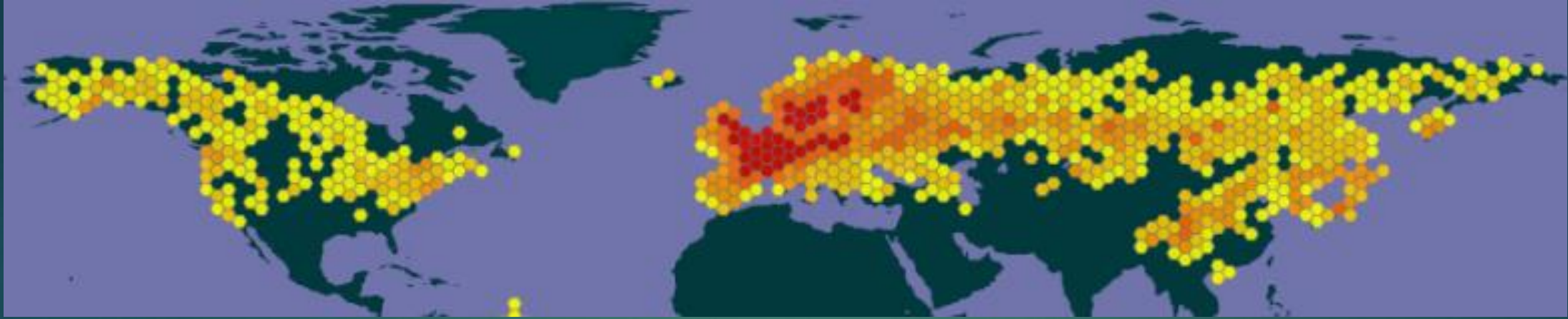
B. populifolia,
poppelikoivu



<https://fi.wikipedia.org/wiki/Poppelikoivu>

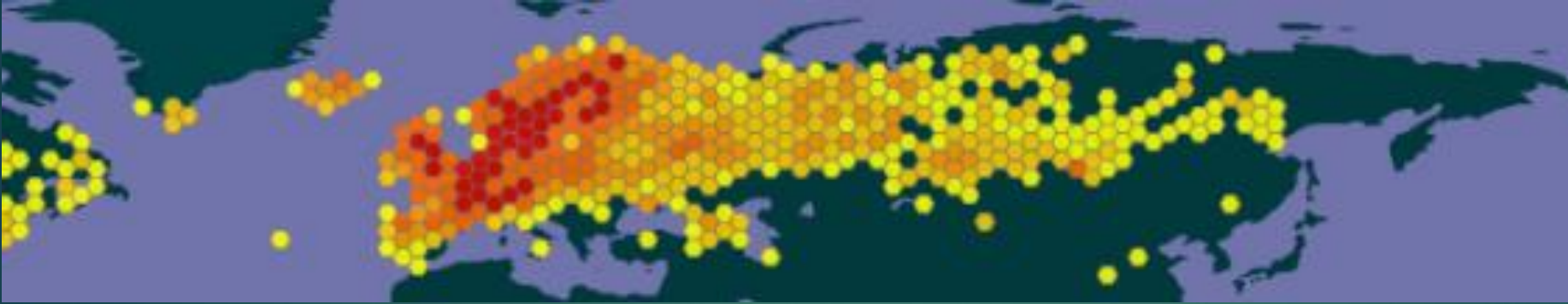


B. pendula ssp. *mandschurica* ja ssp. *pendula*,
siperian- ja euroopanrauduskoivu
huom. E PAm viljelty.



<https://www.gbif.org/species/5331916>

B. pubescens, hieskoivu



<https://www.gbif.org/species/9118014>

Betula
chichibuensis,

ruotokoivu
Japani



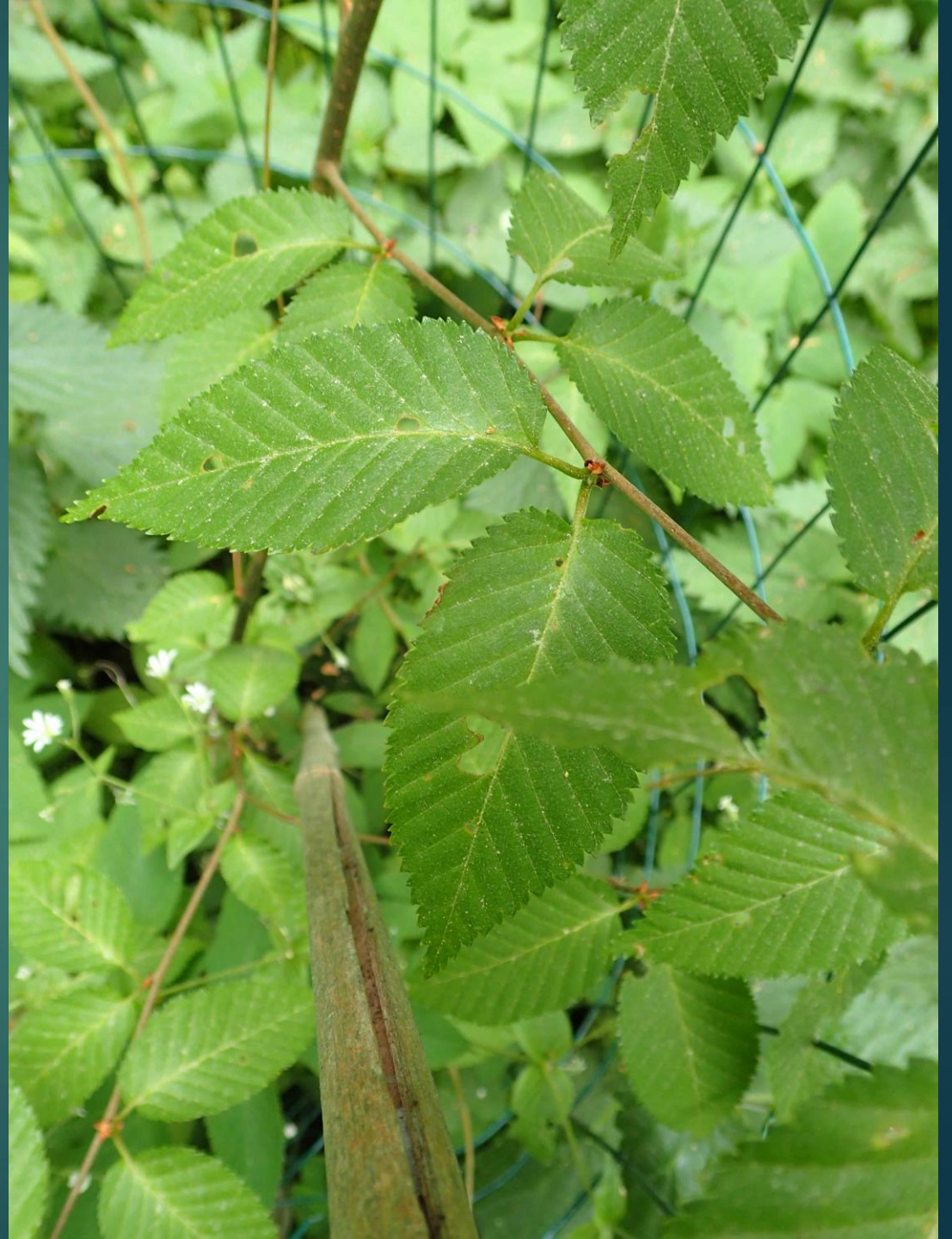
Betula chinensis,
sarvikoivu
N. & E. Kiina - Korea



*Betula
costata*,
koreankoivu



Betula grossa,
kirsikkakoivu
Japani



*Betula
maximowicziana*,
morakkikoivu
Japani



Betula nigra,
mustakoivu
U.S.A.



Betula pumila,
amerikanpensaskoivu



Betula schmidtii
Russian Far East to
Korea, Japan (N. &
Central Honshu)



Betula utilis,
vuorikoivu
Himalaja,
Kiina



<https://www.frankpmatthews.com>



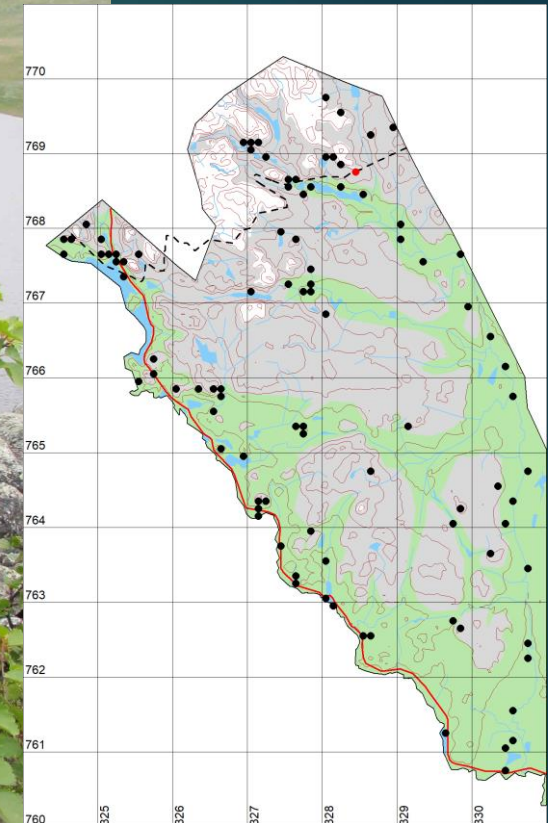
Betula alleghaniensis risteymiä: *B. papyrifera*, *B. pumila*, *B. lenta*, *B. glandulosa*, *B. pendula*, *B. davurica*, *B. nigra*, *B. occidentalis*, *B. populifolia*, *B. mandshurica* ja *B. pubescens*

B. pendula ×
populifolia jne.

B. nana ×
pubescens ssp.
czerepanovii

Betula × *bottnica* Mela,
Betula nana × *pendula*

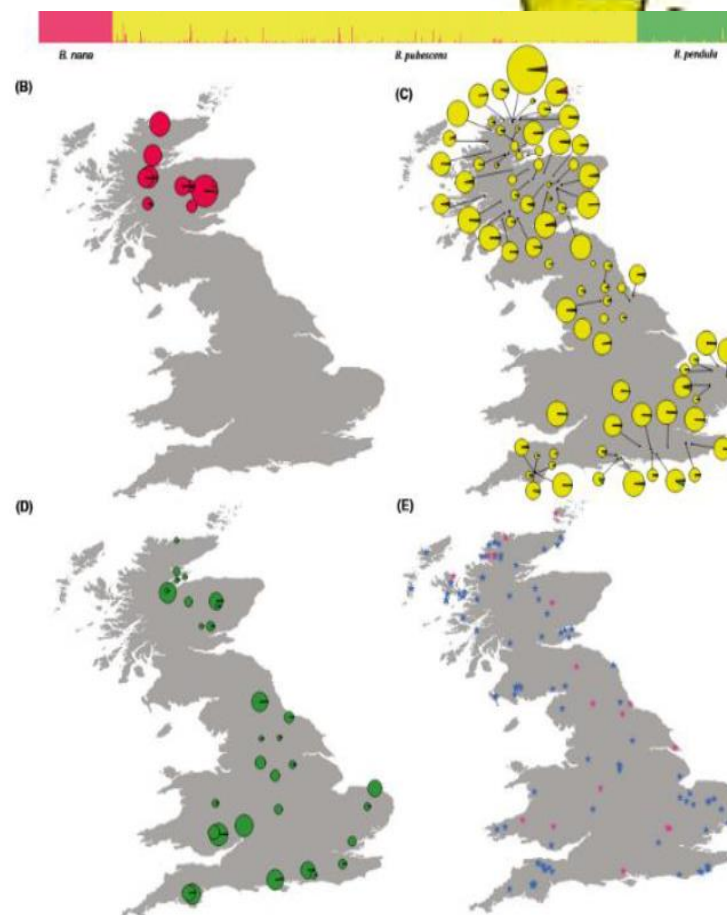
Betula × *intermedia* (Hartm.) E.Thomas ex Gaudin,
Betula nana × *pubescens*



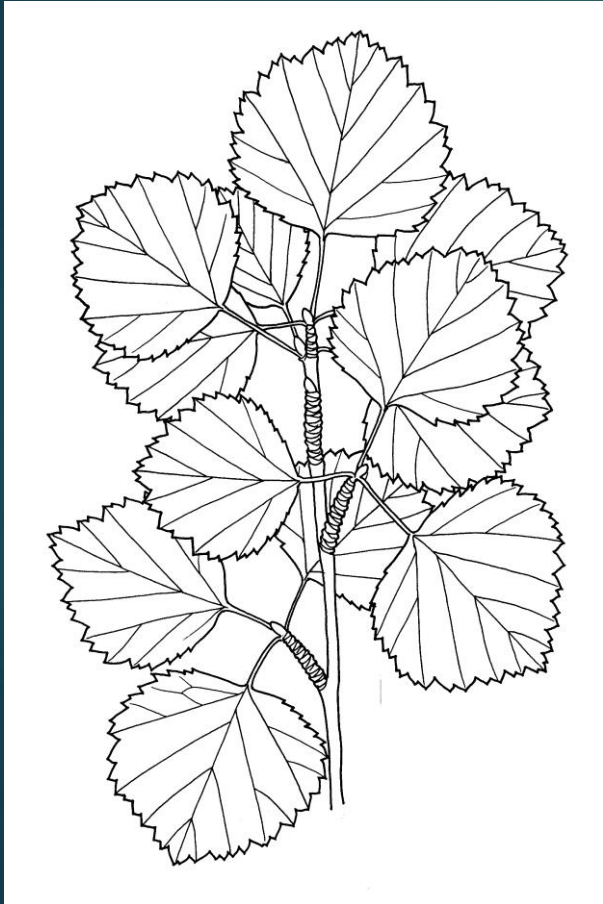
B. pendula × *pubescens*, *B. × aurata*. –
hybridikoivu



B. nana × *pubescens*



Betula pubescens
ssp. czerepanovii,
tunturikoivu



Marja Koistinen

