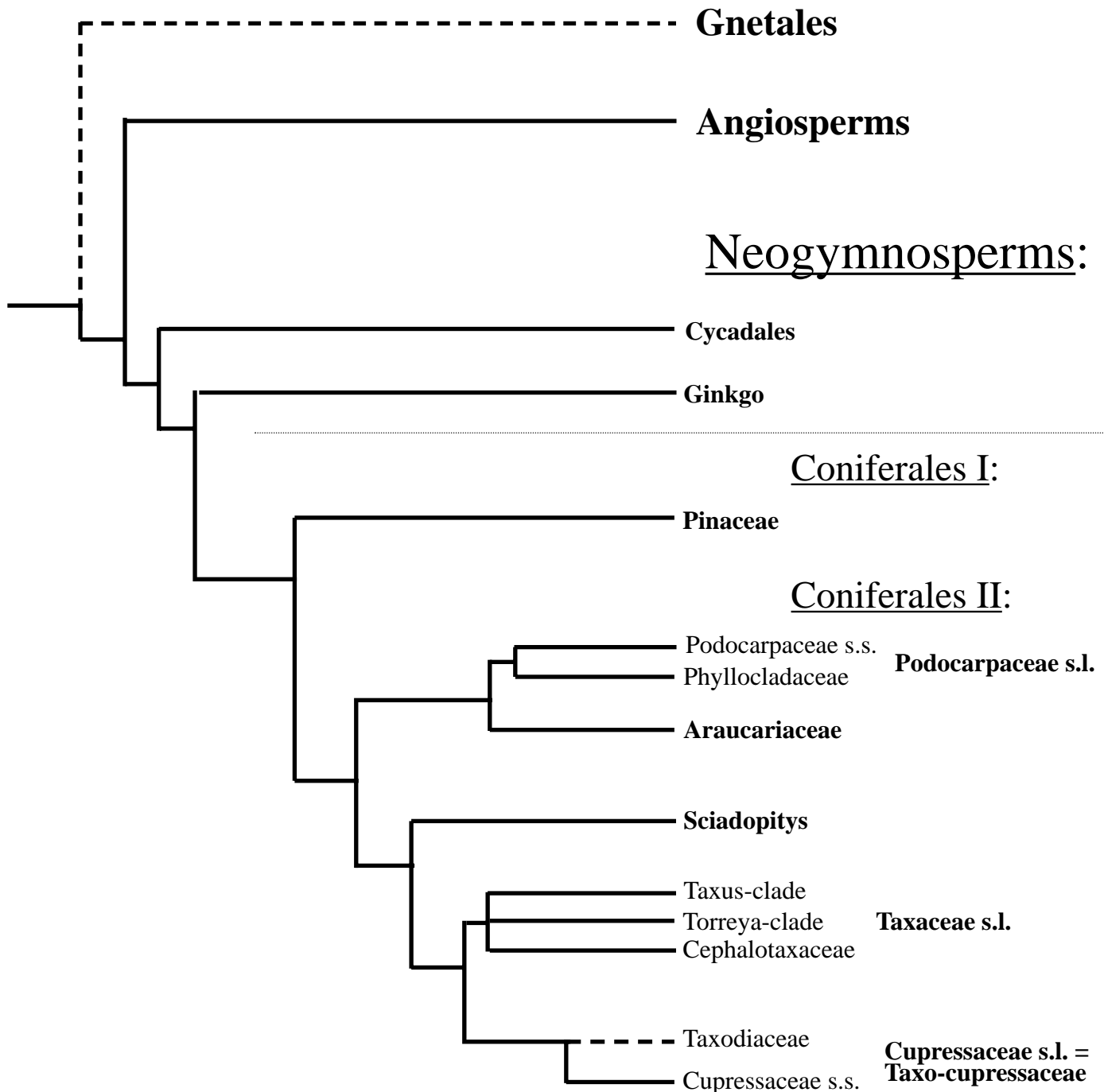


# Phylogeny of Coniferales

Fig. 1



## Family tree of Coniferales!

All proper investigations until now confirm the tree and no investigations contradict the tree. The Podocarpaceae s.s./Phyllocladaceae relation within Podocarpaceae s.l. I have not investigated personally. Torreyia, Cephalotaxus and Taxus have almost the same and rather big number of rbcL-mutations from their common ancestor, an amazing number of mutations considering their morphological close similarities.

## The Gymnosperms is not a monophyletic group?

My first rbcL-investigation indicated the location of Gnetales, which is shown above, but other locations are also possible according to genetic cladograms. However, the number of mutations in the genes, the distance in morphology and geography plus the palaeobotany indicate the Gnetales lineage to be older than the Angiosperms.