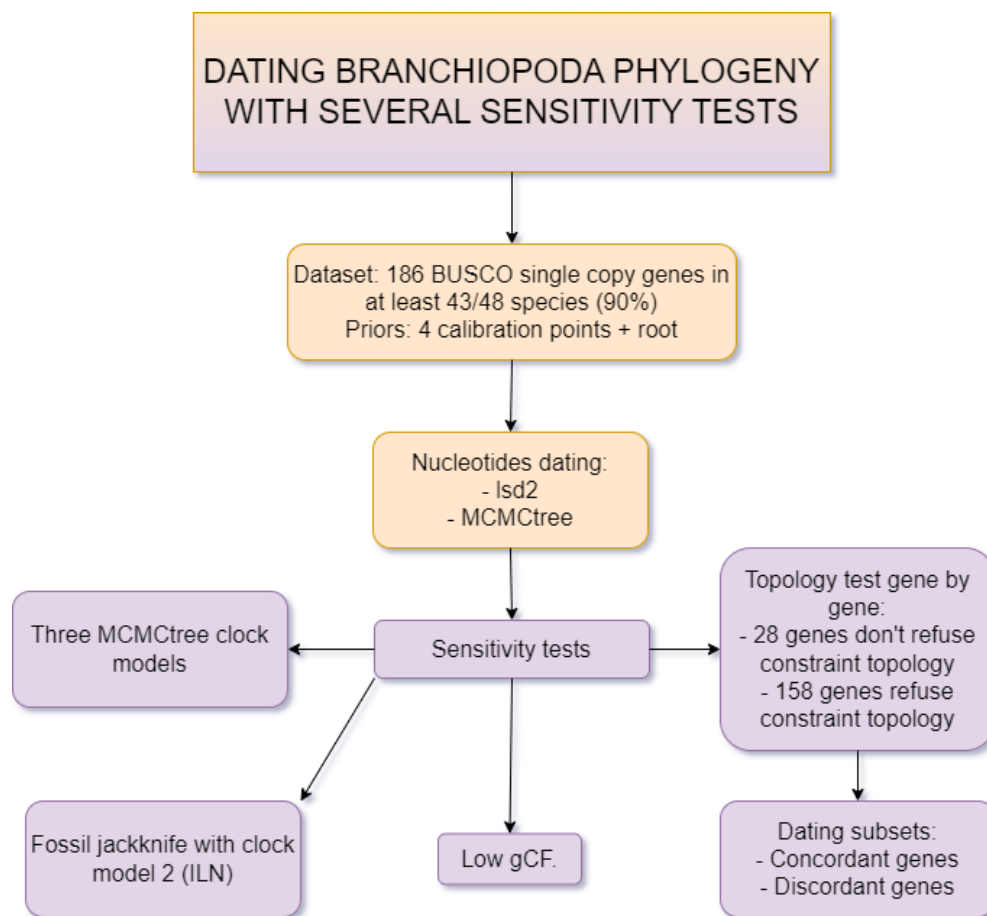# Branchiopoda Dating

Sumup

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0.1 Fatto in tesi

0.1.1 Filogenesi iqtree nucleotidi

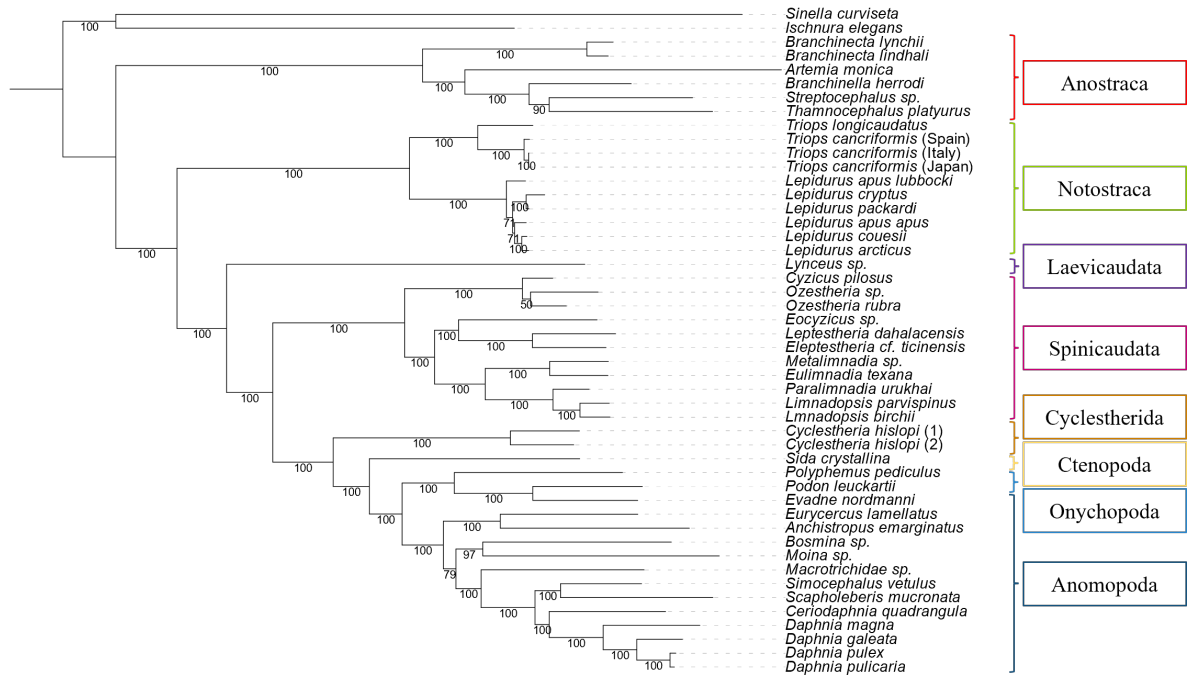Dataset: 186 geni BUSCO single copy in almeno 43/48 specie (90%).

Figure 1: Maximum likelihood phylogenetic tree built on the nucleotide alignment of the 186 BUSCO genes present in at least 90% of the species (43/48) using IQ-TREE. Numbers at branches represent ultrafast bootstrap proportion.

0.1.2 Dating sui nucleotidi con lsd2 e i 3 clock model di mcmctree
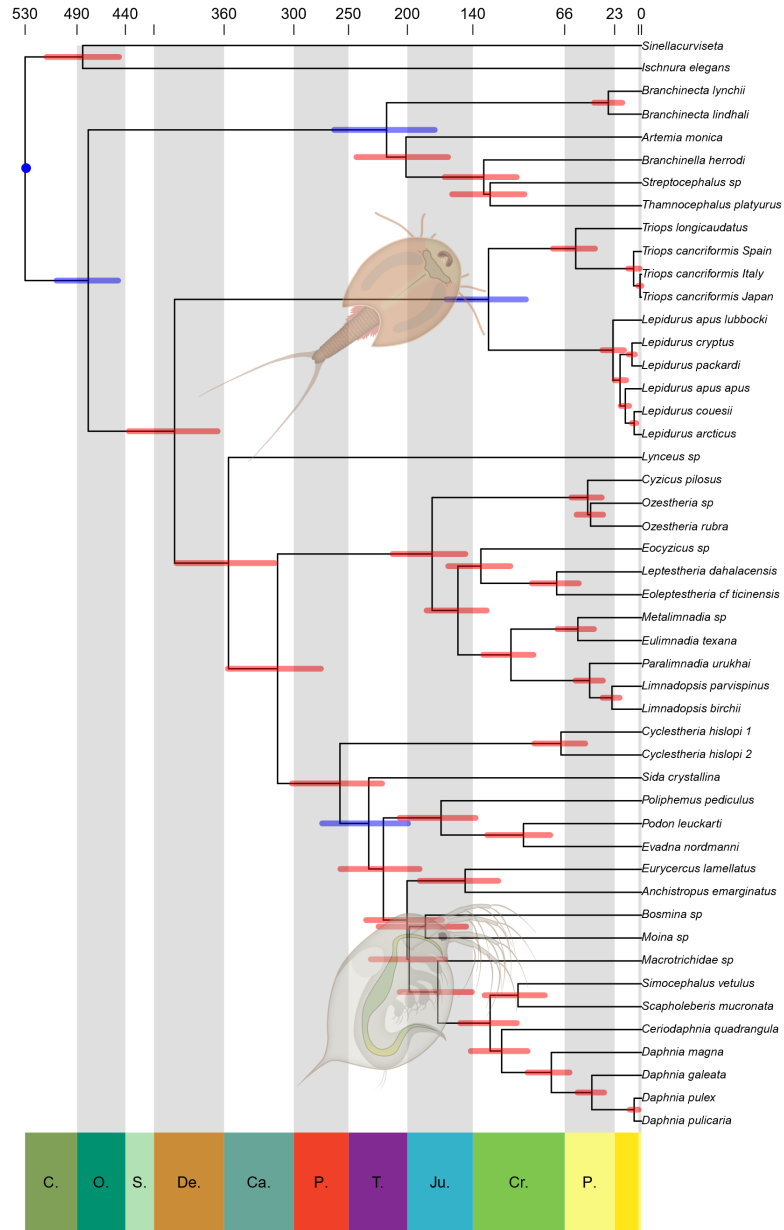

Figure 2: Tree dated with lsd2: blue bars are the prior calibrations. The two silhouettes represent the most studied groups of branchiopods, on top Notostraca and at the bottom Cladocera.

Ischnura elegans
Sinella curviseta
Branchinecta lindhali
Branchinecta lynchii
Artemia monica
Branchinella herrodi
Thamnocephalus platyurus
Streptocephalus sp
Triops longicaudatus
Triops cancriformis Spain
Triops cancriformis Japan
Triops cancriformis Italy
Lepidurus packardi
Lepidurus cryptus
Lepidurus apus lubbocki
Lepidurus apus apus
Lepidurus arcticus
Lepidurus couesii
Lynceus sp
Ozestheria rubra
Cyzicus pilosus
Ozestheria sp
Eocyzicus sp
Eoleptestheria cf ticinensis
Leptestheria dahalacensis
Eulimnadia texana
Metalimnadia sp
Paralimnadia urukhai
Limnadopsis birchii
Limnadopsis parvispinus
Cyclestheria hislopi 2
Cyclestheria hislopi 1
Sida crystallina
Poliphemus pediculus
Evadna nordmanni
Podon leuckarti
Bosmina sp
Anchistropus emarginatus
Eurycercus lamellatus
Moina sp
Macrotrichidae sp
Ceriodaphnia quadrangula
Scapholeberis mucronata
Simocephalus vetulus
Daphnia magna
Daphnia galeata
Daphnia pulicaria
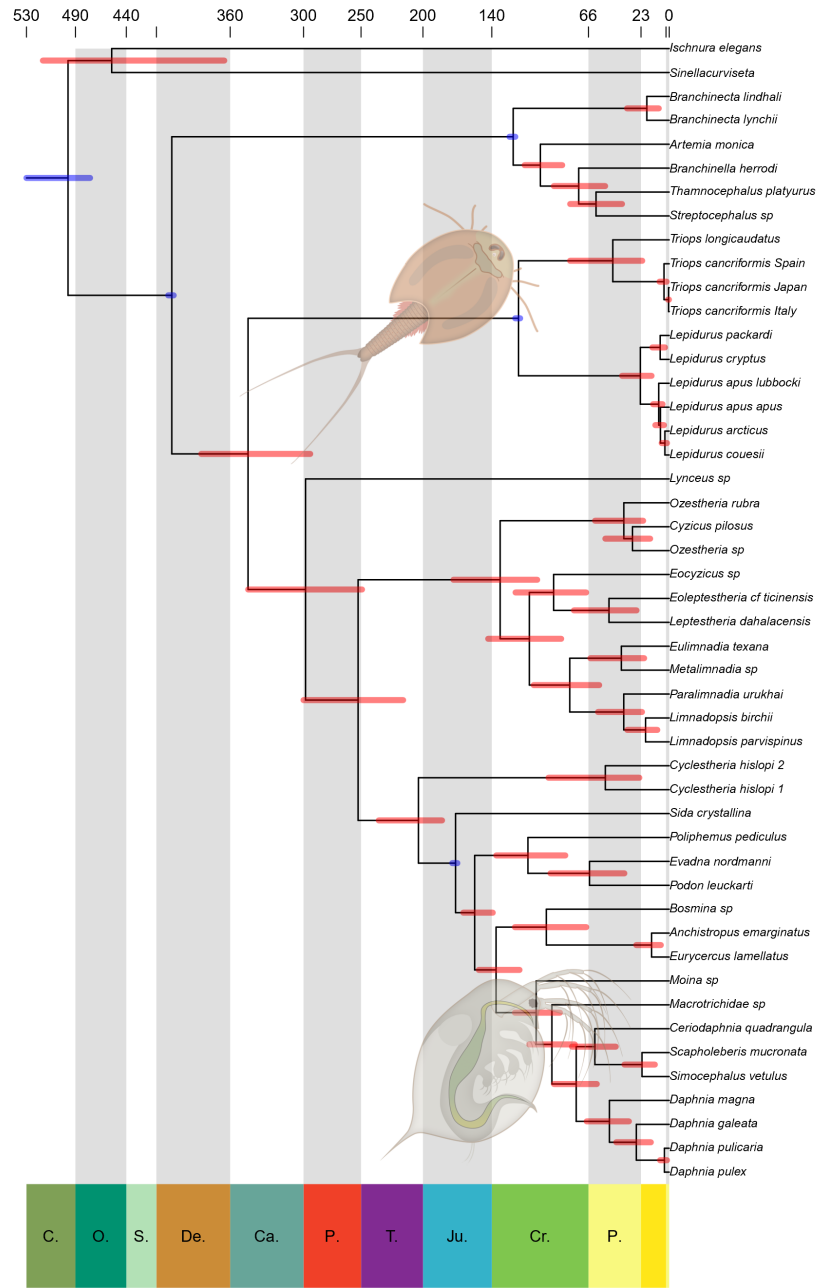*Daphnia pulex*

C. O. S. De. Ca. P. T. Ju. Cr. P.

Figure 3: Tree dated with MCMCtree with correlated rates (GBM) Clock Model: blue bars are the prior calibrations. The two silhouettes represent the most studied groups of branchiopods, on top Notostraca and at the bottom Cladocera.
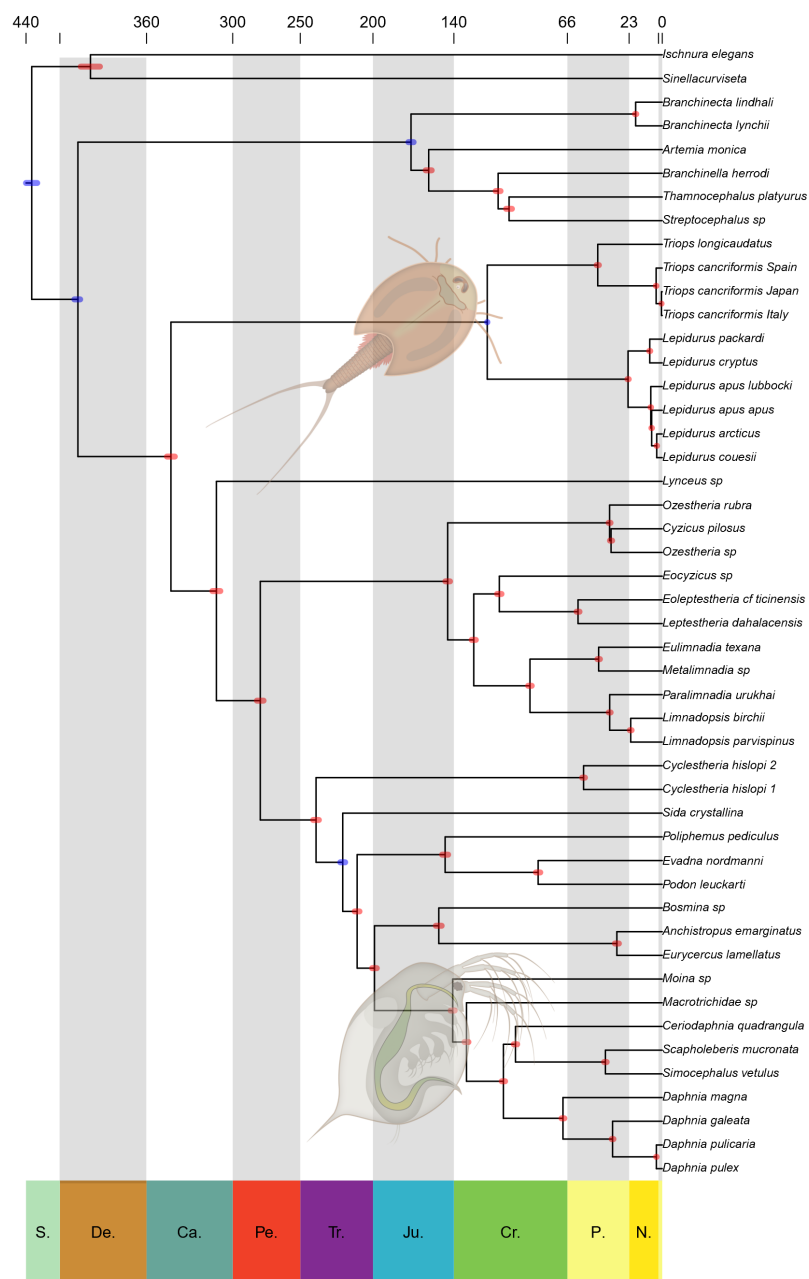
Figure 4: Tree dated with MCMCtree with global (strict) Clock Model: blue bars are the prior calibrations. The two silhouettes represent the most studied groups of branchiopods, on top Notostraca and at the bottom Cladocera.
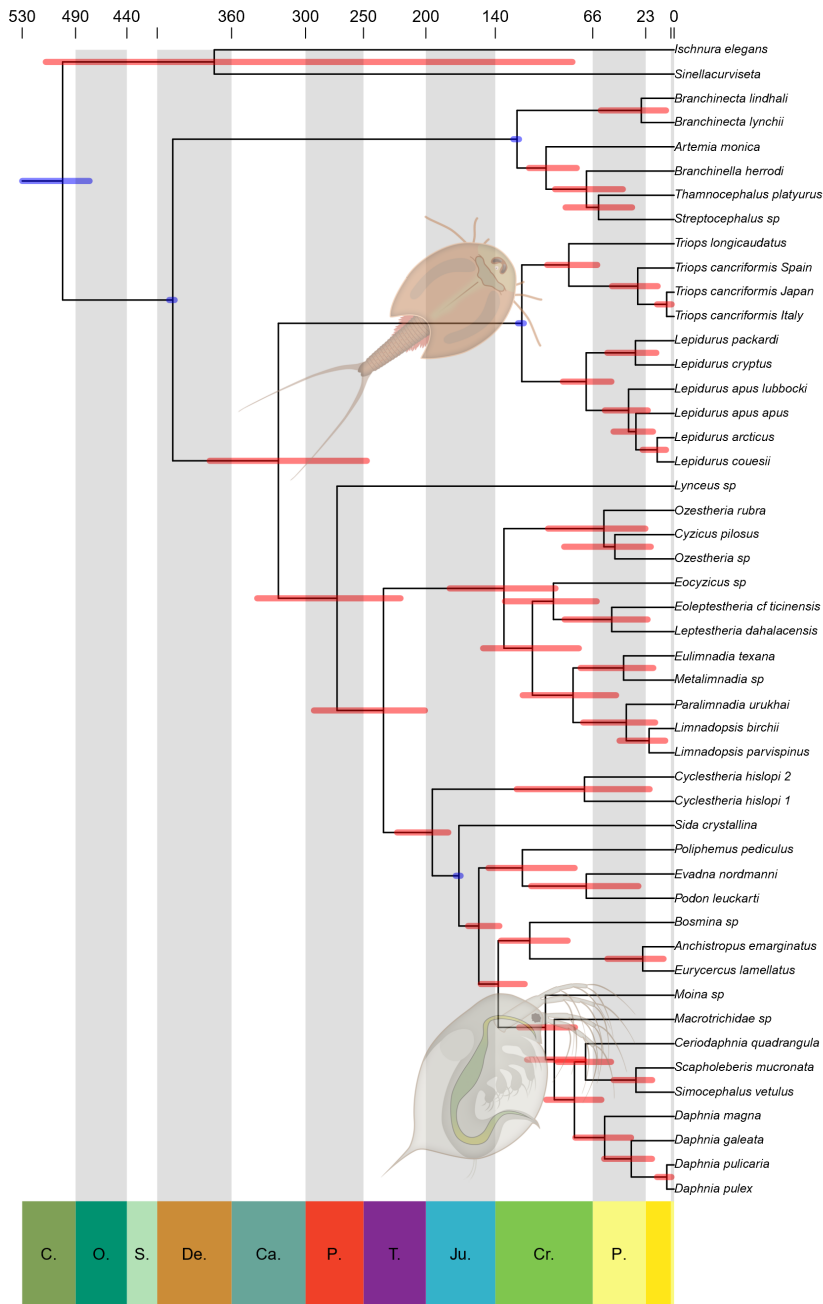
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Figure 5: Tree dated with MCMCtree with ILN Clock Model: blue bars are the prior calibrations. The two silhouettes represent the most studied groups of branchiopods, on top Notostraca and at the bottom Cladocera.

Figure 6: Comparison of the dating of the major clades of Branchiopoda with 4 different methods (i.e., lsd2 and MCMCtree with GBM, strict, and ILN clock models) with confidence intervals.

0.2 Fatto dopo la laurea

0.2.1 Jackknife fossili

Jackknife dei fossili con i 186 geeni BUSCO single copy e clock model 2, ovvero l'independent rates.
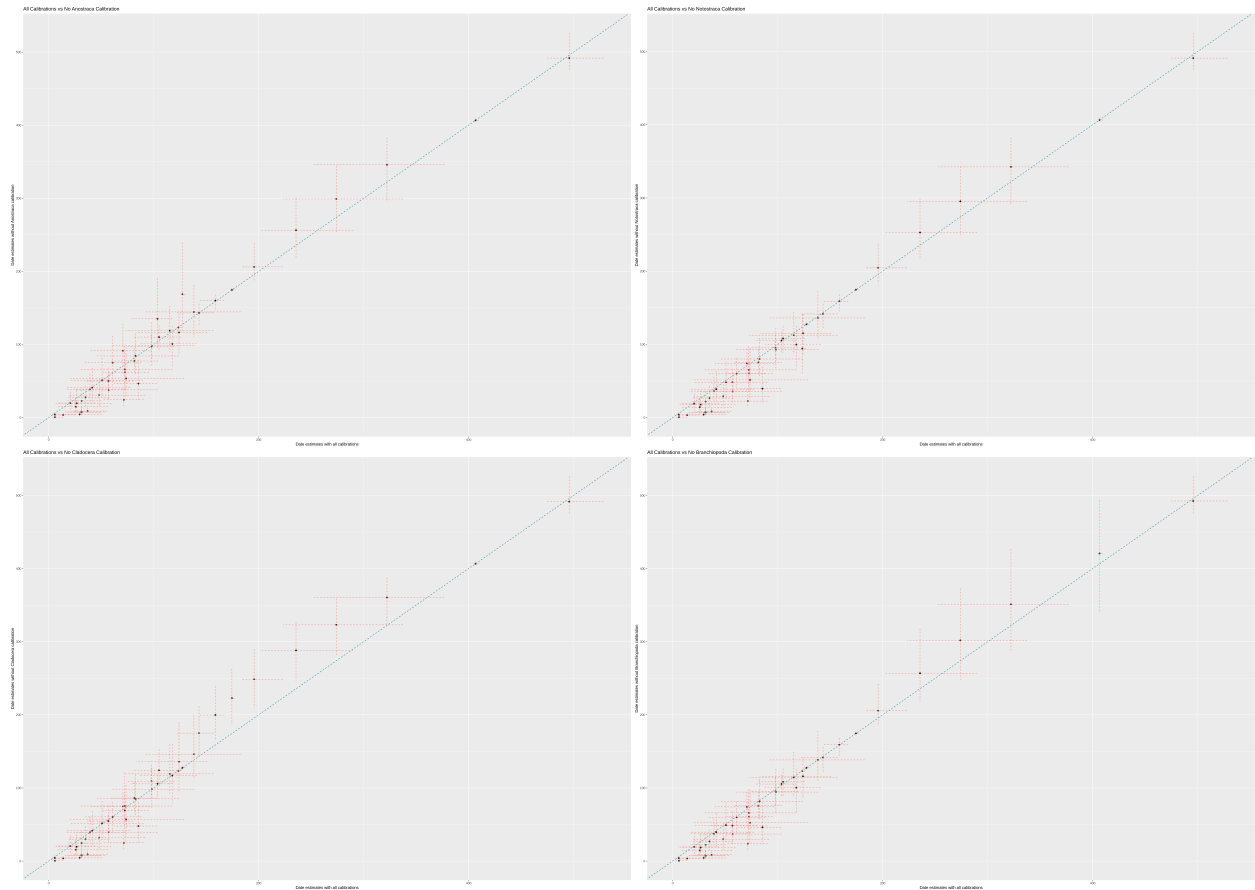

Figure 7: Dating of all nodes removing each time one node

0.2.2 gCF bassi