

Phylogenetic networks

Summer 2013

Assignment 8

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1. Compute hybridization networks (4 points)

Consider the two trees provided in <http://ab.inf.uni-tuebingen.de/teaching/ss2013/phylo/5ndhF-rbc1L.tree>. Use Dendroscope3 to answer the following questions: What is the hybridization number for this pair of trees. How many different minimum networks exist for them.

Compute a tanglegram for two of the networks and then discuss how the two networks differ.

2. Design two tree (2 points)

Design two phylogenetic trees on the taxa $\{apple, banana, carrot, date, eggplant\}$ that have the property that their hybridization number is three.

3. rSPR distance and hybridization number (4 points)

What is the “rooted SPR” (rSPR) distance? Explain the relationship between the rSPR distance and the hybridization number for two rooted phylogenetic trees.

Due date: July 11, 2013