

DAG!

Network Searches

Dec 8th

Moves:

③ rNNI move

⑦ rSPR move

④ L₀ rSPR

⑤ L₀ head

⑥ L₀ tail

Arc Insertion
↳ Delta Plus

② Arc Removal

① L₀ Delta Minus

different
1-move
neighborhood!

- only use 1 type of moves for each initial start network?
- search in waves?

- quicker brlen-opt?
- parsimony for networks?
- gene-trees on networks?

propose networks built out of ~~high~~ pairs of highly-promising trees

- ↳ distance matrices on seqs
- ↳ compare with ~~seq~~ taxon dists on trees
- ↳ if unequal \rightarrow suggests reticulation

Core construct ancestral states and use them as sequences as well

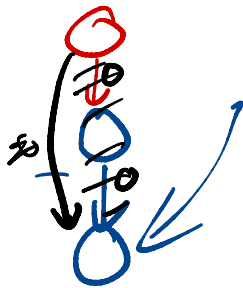
↳ find 2 anc. sequences ~~that~~ that show ~~the~~ smallest distance, but are located in different places in the network

↳ likely we ~~don't~~ have a reticulation there!
↳ look at tree persite-loglikelihoods?
↳ different partitions favor different topologies?

↳ ~~Waves~~ Search in waves
↳ (reticulations are ~~modified~~ relocated by horizontal moves)

↳ rSPR moves only with edges involved in a reticulation
↳ only random Arc Insertion
some

↳ likelihood improvement over time



↳ Search in Waves

↳ first: bs-values in best ~~reconst-ing tree~~ look at these
↳ bootstrap-values for nodes in the

current network?
(or on all displayed trees separately?)

↳ a node with high BS-support likely ~~isn't~~ doesn't need an arc

↳ bipartitions / freq-of occurrence (hashable)
↳ gives support freqs

numerical first derivative than NR-version
(Newton Raphson)
that uses only first
~~derivative~~ derivative

- proxy for likelihood function?
(semi-likelihood)
pseudo-likelihood)

keep # reticulations fixed
plot logl improvement over execution time

look at how final networks differ