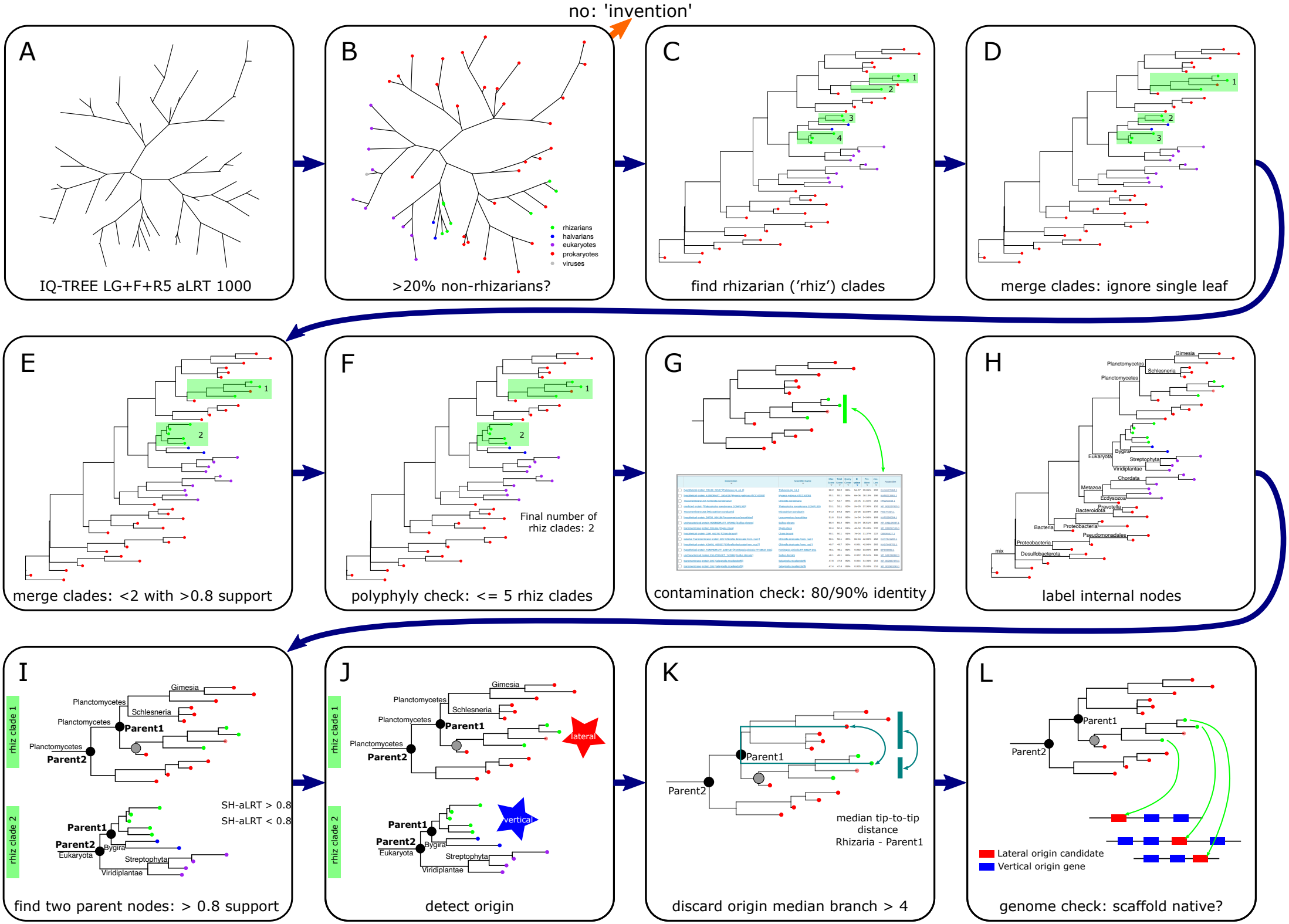
no: 'invention'
A
IQ-TREE LG+F+R5 aLRT 1000
B
rhizarians
halvarians
eukaryotes
prokaryotes
viruses
>20% non-rhizarians?
C
find rhizarian ('rhiz') clades
D
merge clades: ignore single leaf
E
merge clades: <2 with >0.8 support
F
Final number of rhiz clades: 2
polyphyly check: <= 5 rhiz clades
G
contamination check: 80/90% identity
H
Gimesia
Planctomycetes
Schlesneria
Planctomycetes
Bygira
Eukaryota
Streptophyta
Viridiplantae
Chordata
Metazoa
Ecdysozoa
Prevotella
Bacteroidota
Bacteria
Proteobacteria
Pseudomonadales
Proteobacteria
Desulfobacterota
mix
label internal nodes
I
rhiz clade 1
Gimesia
Planctomycetes
Schlesneria
Planctomycetes
Parent1
Planctomycetes
Parent2
rhiz clade 2
Parent1
Parent2
Bygira
Eukaryota
Streptophyta
Viridiplantae
SH-aLRT > 0.8
SH-aLRT < 0.8
find two parent nodes: > 0.8 support
J
rhiz clade 1
Gimesia
Planctomycetes
Schlesneria
Planctomycetes
Parent1
lateral
Planctomycetes
Parent2
rhiz clade 2
Parent1
vertical
Parent2
Bygira
Eukaryota
Streptophyta
Viridiplantae
detect origin
K
Parent1
Parent2
median tip-to-tip distance
Rhizaria - Parent1
discard origin median branch > 4
L
Parent1
Parent2
Lateral origin candidate
Vertical origin gene
genome check: scaffold native?