PTRscripts Vignette

Contents

Load the two necessary libraries for almost everything:

```r
library(PTRscripts)
library(tidyverse)
```

General scripts

```r
# add leading zeros to numbers
add_leading_zeros (numbers = c(1, 2, 3),
                   length = 4)
#> [1] "0001" "0002" "0003"

# add leading zeros to characters
add_leading_zeros (numbers = c("01", "2", "003"),
                   length = 4)
#> [1] "0001" "0002" "0003"
```

Phylogeny scripts

Adding tips to trees

```r
library(ape)
#> Warning: package 'ape' was built under R version 4.4.1
#>
#> Attaching package: 'ape'
#> The following object is masked from 'package:dplyr':
#>
#>     where

set.seed(1)
tree <- phytools::pbtree(n=10,scale=1)

tree$tip.label <- LETTERS[ape::Ntip(tree):1]
# plot(tree)
```

Adding single tips

```r
par(mfrow=c(1,4))

tip_colors_orig <- tibble::tibble(tip = tree$tip.label, color = NA) %>%
  mutate(color = case_when(grepl("^N", tip) ~ "red",
                           tip == "C" ~ "green",
                           TRUE ~ "darkgreen"))

plot.phylo(tree,
           mar=c(0.1,0.1,1.1,0.1),
           cex=1.5,
           tip.color = tip_colors_orig$color)
title(main = paste0("original"), cex.main=1.5)

for(i in c(.2,.5,.8)){ # c(.1,.25,.5,.75,.9)
  tree_new1 <- add_cherry_to_tip(tree = tree,
                                 tip = "C",
                                 new_tips = "N1",
                                 position = i)


  # get colors
  tip_colors <- tibble::tibble(tip = tree_new1$tip.label, color = NA) %>%
    mutate(color = case_when(grepl("^N", tip) ~ "red",
                             tip == "C" ~ "green",
                             TRUE ~ "darkgreen"))

  plot.phylo(tree_new1,
             mar=c(0.1,0.1,1.1,0.1),
             cex=1.5,
             tip.color = tip_colors$color)

  title(main = paste0("pos.= ", i), cex.main=1.5)
}
#> [1] "Added the following 1 tip label(s):"
#> [1] "N1"
#> [1] "Added the following 1 tip label(s):"
#> [1] "N1"
#> [1] "Added the following 1 tip label(s):"
#> [1] "N1"
```
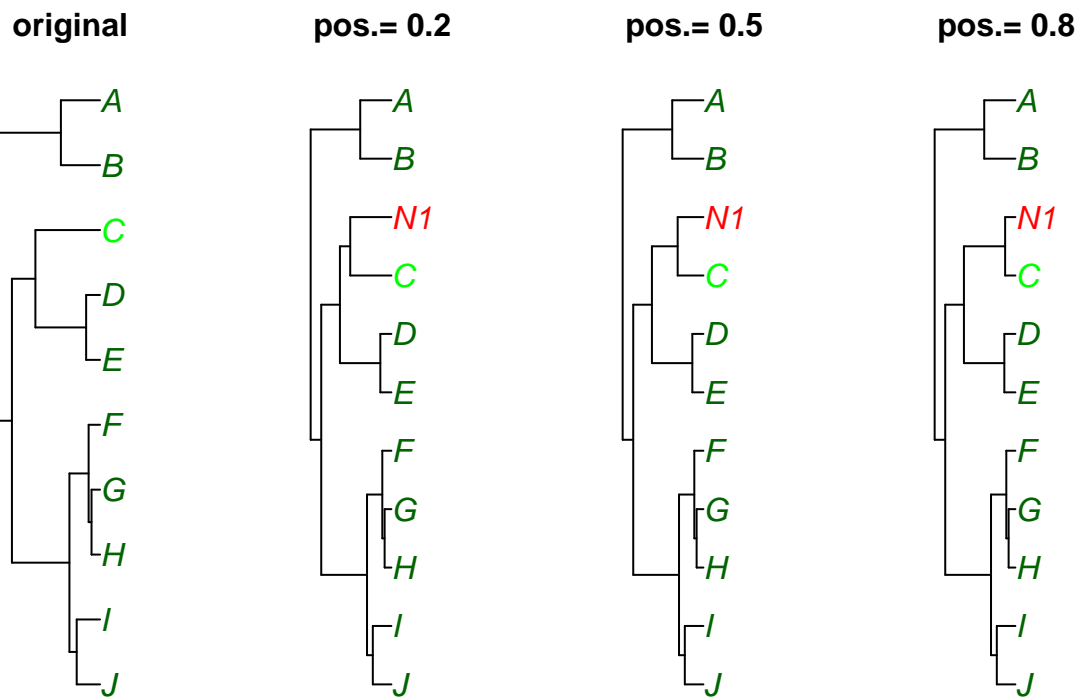
```
par(mar=c(5.1,4.1,4.1,2.1))
```

Adding multiple tips

```
par(mfrow=c(1,4))
plot.phylo(tree,
           mar=c(0.1,0.1,1.1,0.1),
           cex=1.5,
           tip.color = tip_colors_orig$color)
title(main = paste0("original"), cex.main=1.5)

i=.5
for(i in c(.2,.5,.8)){ # c(.1,.25,.5,.75,.9)
  tree_new1 <- add_cherry_to_tip(tree = tree,
                          tip = "C",
                          new_tips = c("N1", "N2", "N3", "N4"),
                          position = i)

  # get colors
  tip_colors <- tibble::tibble(tip = tree_new1$tip.label, color = NA) %>%
    mutate(color = case_when(grepl("^N", tip) ~ "red",
                           tip == "C" ~ "green",
                           TRUE ~ "darkgreen"))

  plot.phylo(tree_new1,
```
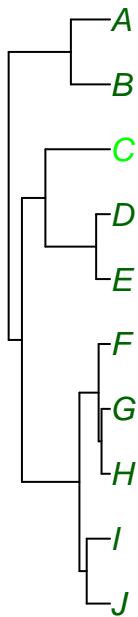
```
            mar=c(0.1,0.1,1.1,0.1),
            cex=1.5,
            tip.color = tip_colors$color)

  title(main = paste0("pos.= ", i), cex.main=1.5)
}
#> [1] "Added the following 4 tip label(s):"
#> [1] "N1" "N2" "N3" "N4"
#> [1] "Added the following 4 tip label(s):"
#> [1] "N1" "N2" "N3" "N4"
#> [1] "Added the following 4 tip label(s):"
#> [1] "N1" "N2" "N3" "N4"
```
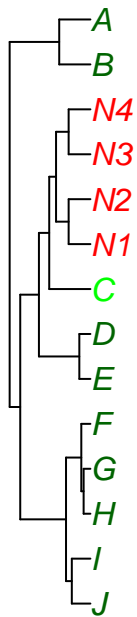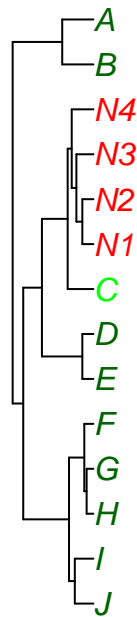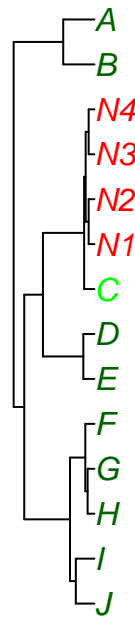


```
par(mar=c(5.1,4.1,4.1,2.1))
```