Hex sticker for ethnobotanyR

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Here is a brief walk-through on how to use a version of the `sticker` function from `hexSticker` (Yu 2019) to generate the hex sticker for the `ethnobotanyR` package (Whitney 2019).

Quick Links

Generate a sticker
Bordeless sticker
Small sticker

Create a version of the `sticker` function from `hexSticker`. The new function is, quite originally, named `hex_sticker`.

```
hex_sticker <-function (subplot, s_x = 0.8, s_y = 0.75, s_width = 0.4, s_height = 0.5,
    package, p_x = 1, p_y = 1.4, p_color = "#FFFFFF", p_family = "Aller_Rg",
    p_size = 8, h_size = 1.2, h_fill = "#1881C2", h_color = "#87B13F",
    spotlight = FALSE, l_x = 1, l_y = 0.5, l_width = 3, l_height = 3,
    l_alpha = 0.4, url = "", u_x = 1, u_y = 0.08, u_color = "black",
    u_family = "Aller_Rg", u_size = 1.5, u_angle = 30, white_around_sticker = FALSE,
    ..., filename = paste0(package, ".png"), asp = 1, dpi = 2000)
{
    hex <- ggplot() + geom_hexagon(size = h_size, fill = h_fill,
        color = NA)
    if (inherits(subplot, "character")) {
        d <- data.frame(x = s_x, y = s_y, image = subplot)
        sticker <- hex + geom_image(aes_(x = ~x, y = ~y, image = ~image),
            d, size = s_width, asp = asp)
    }
    else {
        sticker <- hex + geom_subview(subview = subplot, x = s_x,
            y = s_y, width = s_width, height = s_height)
    }
    sticker <- sticker + geom_hexagon(size = h_size, fill = NA,
        color = h_color)
    if (spotlight)
        sticker <- sticker + geom_subview(subview = spotlight(l_alpha),
            x = l_x, y = l_y, width = l_width, height = l_height)
    sticker <- sticker + geom_pkgname(package, p_x, p_y, p_color,
        p_family, p_size, ...)
    sticker <- sticker + geom_url(url, x = u_x, y = u_y, color = u_color,
        family = u_family, size = u_size, angle = u_angle)
    if (white_around_sticker)
        sticker <- sticker + white_around_hex(size = h_size)
    sticker <- sticker + theme_sticker(size = h_size)
    save_sticker(filename, sticker, dpi = dpi)
    invisible(sticker)
}
```

Create a small data set for the plot in the middle of the sticker.

```
eth_data <- data.frame(variable = as.factor(1:10),
                value = sample(10, replace = TRUE))
```

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Use the `coord_polar` function from `ggplot2` to make the central chord bar plot (Wickham et al. 2019). Different each time this is run.

```
ethnobotanyR_sticker <- ggplot(eth_data,
  aes(variable, value, fill = variable)) +
  geom_bar(width = 1, stat = "identity") +
  scale_y_continuous(breaks = 0:nlevels(eth_data$variable)) +
  theme_minimal() +
  coord_polar()+
  theme_void() +
  theme_transparent() +
  theme(legend.position="none")
```
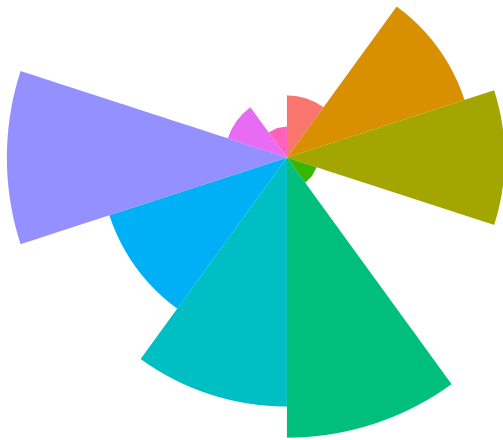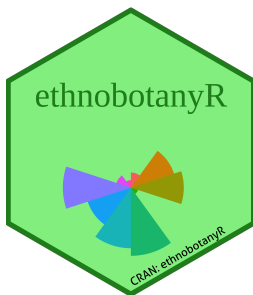

Generate a sticker

Generate a png file of the hex sticker using the new `hex_sticker` function.

```
hex_sticker(ethnobotanyR_sticker, p_size=6, s_x=1, s_y=.75, s_width=1.5, s_height=1.2, h_fill = "lightgr
```
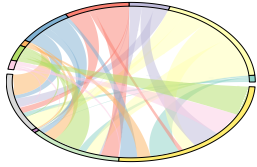
Bordeless sticker

Securely bordeless

Small sticker

Chord diagrams for future stickers

Create a simple chord plot in R (R Core Team 2019) and use colors from `RColorBrewer` to fill the connections (Neuwirth 2014).

The `ethnobotanyR` package also has options for producing chord diagrams with (Gu 2019) that may be part of future stickers (Whitney 2019). Here is an example with the built-in data set `ethnobotanydata`.

```
ethno_chord_plot_sticker_mid <- ethnoChord(ethnobotanydata, by = "sp_name")
```
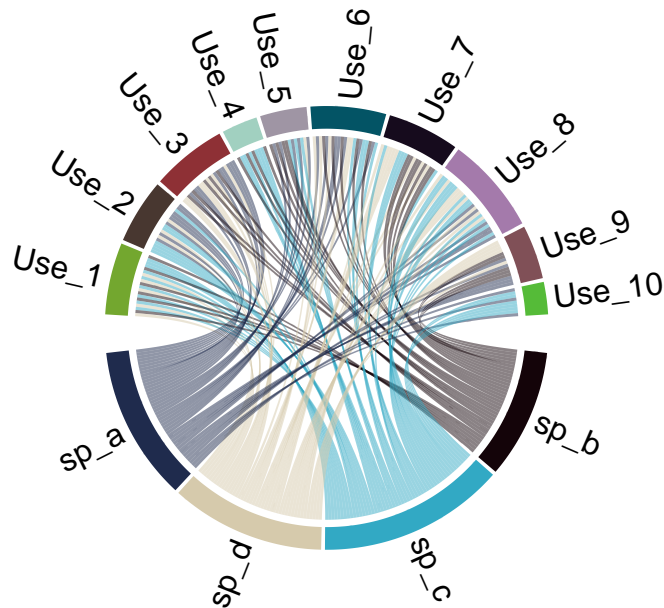

References

Gu, Zuguang. 2019. *Circlize: Circular Visualization.* https://CRAN.R-project.org/package=circlize.

Neuwirth, Erich. 2014. *RColorBrewer: ColorBrewer Palettes.* https://CRAN.R-project.org/package=RColorBrewer.

R Core Team. 2019. *R: A Language and Environment for Statistical Computing.* Vienna, Austria: R Foundation for Statistical Computing. https://www.R-project.org/.

Whitney, Cory. 2019. *EthnobotanyR: Calculate Quantitative Ethnobotany Indices.* https://CRAN.R-project.org/package=ethnobotanyR.

Wickham, Hadley, Winston Chang, Lionel Henry, Thomas Lin Pedersen, Kohske Takahashi, Claus Wilke, Kara Woo, and Hiroaki Yutani. 2019. *Ggplot2: Create Elegant Data Visualisations Using the Grammar of Graphics.* https://CRAN.R-project.org/package=ggplot2.

Yu, Guangchuang. 2019. *HexSticker: Create Hexagon Sticker in R.* https://CRAN.R-project.org/package=hexSticker.