

Package ‘poisonfrogs’

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Title Color Palettes Inspired by Neotropical Poison Frogs

Version 1.0.2

Description A collection of color palettes inspired by the enormous diversity of skin colors in Neotropical poison frog species. Suitable for use with 'ggplot2' and base R graphics.

URL <https://laurenocConnellab.github.io/poisonfrogs/>

BugReports <https://github.com/laurenocConnellab/poisonfrogs/issues>

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Contents

poisonfrogs	2
poison_palette	2
poison_palettes_names	3
scale_color_poison	4

Index	7
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poisonfrogs

Colour Palettes of Neotropical Poison Frogs

Description

A collection of color palettes inspired by the enormous diversity of skin colors in Neotropical poison frog species. Suitable for use with 'ggplot2' and base R graphics.

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See Also

Useful links:

- <https://laurenocnelloab.github.io/poisonfrogs/>
- Report bugs at <https://github.com/laurenocnelloab/poisonfrogs/issues>

poison_palette

Plot and print poison frog color palettes.

Description

Visualize colors and print hexcodes from a poison frog color palette.

Usage

```
poison_palette(  
  name,  
  n = NULL,  
  type = c("discrete", "continuous"),  
  direction = 1,  
  alpha = NULL,  
  return = c("plot", "vector")  
)
```

Arguments

name	Character. Name of poison frog palette (one of <code>poison_palettes_names()</code>).
n	Integer (optional). Number of colours to use. Defaults to the palette length (max. <code>n = 5</code>) for <code>type = "discrete"</code> and 256 for <code>type = "continuous"</code> .
type	Either <code>"discrete"</code> or <code>"continuous"</code> .
direction	Integer. 1 for forward, -1 for reversed order.
alpha	Optional numeric in <code>[0, 1]</code> . Uniform transparency applied to all colours.
return	Either <code>"plot"</code> (default) to show a tile plot with hex labels, or <code>"vector"</code> to return a character vector of hex colours.

Value

If `return = "plot"`, a `ggplot2` object. If `return = "vector"`, a character vector of hex colours.

Examples

```
# Show a palette as tiles (default)
poison_palette("Ramazonica")

# Reverse order and show only 4 colours
poison_palette("Ramazonica", n = 4, direction = -1)

# Get a vector with the palette hex codes
cols <- poison_palette("Ramazonica", return = "vector")

# Continuous gradient preview (16 swatches)
poison_palette("Osotokiki", type = "continuous", n = 16)
```

`poison_palettes_names` *List the names of available color palettes inspired in poison frogs and other frog species.*

Description

List the names of available color palettes inspired in poison frogs and other frog species.

Usage

```
poison_palettes_names()
```

Value

A character vector of palette names.

Examples

```
poison_palettes_names()
```

scale_color_poison *Poison frog color scales for ggplot2*

Description

The poison scales provide color maps inspired by the diverse colors of Neotropical poison frogs. For **discrete** data it uses `ggplot2::discrete_scale()`, and for **continuous** data it builds a smooth gradient with `ggplot2::scale_color_gradientn()`.

Usage

```
scale_color_poison(
  name,
  type = c("discrete", "continuous"),
  direction = 1,
  alpha = NULL,
  ...
)
```

```
scale_colour_poison(
  name,
  type = c("discrete", "continuous"),
  direction = 1,
  alpha = NULL,
  ...
)
```

```
scale_fill_poison(
  name,
  type = c("discrete", "continuous"),
  direction = 1,
  alpha = NULL,
  ...
)
```

Arguments

name	Character. Name of the poison frog palette to use one of <code>poison_palette_names()</code> .
type	Either "discrete" or "continuous". Selects which kind of ggplot2 scale is constructed.
direction	Integer. 1 for the palette in its stored order, -1 to reverse it.
alpha	Optional numeric in $[0, 1]$. Applies a uniform transparency to all colors (both discrete and continuous modes).
...	Additional arguments passed to the underlying ggplot2 scale.

Details

- **Discrete:** relies on an internal function factory `poison_pal()` that returns `n` colors (max. `n = 5`) on demand for `ggplot2::discrete_scale()`.
- **Continuous:** generates a 256-color gradient via `poison_palette()` (type "continuous") and passes it to `ggplot2::scale_color_gradientn()`.

Value

A `ggplot2` scale object.

See Also

`poison_palette()`, `poison_pal()`

Examples

```
require(ggplot2)
require(gapminder)
require(ggthemes)
require(tibble)
require(scales)

# Using `scale_color_poison()` with discrete scale
ggplot(gapminder, aes(x = lifeExp, y = log(gdpPercap), colour = continent)) +
  geom_point(alpha = 0.2) +
  scale_color_poison(name = "Ramazonica", type = "discrete") +
  stat_smooth() +
  facet_wrap(. ~ continent, scales = "free") +
  theme_minimal(21, base_line_size = 0.2) +
  theme(
    legend.position = "none",
    strip.background = element_blank(),
    strip.placement = "outside"
  )

# Using `scale_color_poison()` with continuous scale
ggplot(mtcars, aes(wt, mpg, colour = disp)) +
  geom_point(size = 3) +
  scale_color_poison("Ramazonica", type = "continuous", direction = -1) +
  stat_smooth(col = "black") +
  theme_classic(base_size = 32, base_line_size = 0.5)

# Using `scale_fill_poison()` with discrete scale
ggplot(gapminder, aes(x = continent, y = lifeExp, fill = continent)) +
  geom_violin(trim = FALSE, alpha = 0.75) +
  geom_jitter(
    shape = 21,
    position = position_jitter(0.1),
    alpha = 0.3,
    size = 0.8,
```

```

  bg = "grey"
) +
stat_summary(
  fun = mean,
  geom = "point",
  size = 1.5,
  color = "black",
  alpha = 0.6
) +
theme_classic(base_size = 32, base_line_size = 0.5) +
scale_fill_poison(
  name = "Ramazonica",
  type = "discrete",
  alpha = 0.95,
  direction = -1
) +
theme(legend.position = "none") +
xlab(NULL)

df_nottem <- tibble(year = floor(time(nottem)),
                   month = factor(month.abb[cycle(nottem)]),
                   levels = month.abb,
                   temp = as.numeric(nottem))

# Using `scale_fill_poison()` with continuous scale
ggplot(df_nottem, aes(x = temp, y = month, fill = stat(x))) +
  geom_density_ridges_gradient(scale = 2, rel_min_height = 0.01) +
  scale_fill_poison(
    name = "Ramazonica",
    type = "continuous",
    alpha = 0.95,
    direction = 1
  ) +
  labs(
    fill = "eF") +
  theme_light(base_size = 26, base_line_size = 0.5) +
  theme(
    legend.position = "right",
    legend.justification = "left",
    legend.margin = margin(0,0,0,0),
    legend.box.margin = margin(-20,-20,-20,-20)
  )

```

Index

`ggplot2::discrete_scale()`, 4, 5
`ggplot2::scale_color_gradientn()`, 4, 5

`poison_palette`, 2
`poison_palettes_names`, 3
`poisonfrogs`, 2
`poisonfrogs`-package (`poisonfrogs`), 2

`scale_color_poison`, 4
`scale_colour_poison`
 (`scale_color_poison`), 4
`scale_fill_poison` (`scale_color_poison`),
 4