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://laurenoconnelllab.github.io/poisonfrogs/

BugReports https://github.com/laurenoconnelllab/poisonfrogs/issues

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Depends R (>= 2.10)

Imports ggplot2 (>= 3.4.0), lifecycle, rlang

Suggests testthat (>= 3.0.0), gapminder, ggridges, scales, tibble

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NeedsCompilation no

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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.

Author(s)

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See Also

Useful links:

- https://laurenoconnelllab.github.io/poisonfrogs/
- Report bugs at https://github.com/laurenoconnelllab/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 poison_palettes_names()).
n	Integer (optional). Number of colours to use. Defaults to the palette length (max. n = 5) for type = "discrete" and 256 for type = "continuous".
type	Either "discrete" or "continuous".
direction	Integer. 1 for forward, -1 for reversed order.
alpha	Optional numeric in [0, 1]. Uniform transparency applied to all colours.
return	Either "plot" (default) to show a tile plot with hex labels, or "vector" 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)
```

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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 `poison_palette_names()`.
`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(ggridges)
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 = "ºF") +
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)
 )
```

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