

Package ‘ggpalettes’

August 4, 2026

Title Curated Colour Palettes and Scales for 'ggplot2'

Version 0.2.0

Description Provides a broad catalogue of original categorical, sequential, and diverging colour palettes for scientific graphics, together with palette functions, named discrete and continuous colour and fill scales, catalogue plots, and palette diagnostics for 'ggplot2'. Palettes can also be retrieved as hexadecimal colour vectors for use in base graphics and other visualization systems.

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URL <https://yaoxiangli.github.io/ggpalettes/>,
<https://github.com/YaoxiangLi/ggpalettes>

BugReports <https://github.com/YaoxiangLi/ggpalettes/issues>

Encoding UTF-8

Imports ggplot2, grDevices, rlang, stats

Suggests testthat (>= 3.0.0)

Config/testthat/edition 3

Config/roxygen2/version 8.0.0

NeedsCompilation no

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Repository CRAN

Date/Publication 2026-08-04 16:30:17 UTC

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gg_palette	<i>Retrieve a curated colour palette</i>
------------	--

Description

Retrieve a curated colour palette

Usage

```
gg_palette(  
  name = "meadow",  
  n = NULL,  
  direction = 1,  
  alpha = 1,  
  space = c("Lab", "rgb")  
)
```

Arguments

name	Palette name. See gg_palette_names() .
n	Number of colours to return. When NULL, returns the original anchors. Larger values are interpolated.
direction	Palette direction: 1 for the original order or -1 for the reversed order.
alpha	Opacity between 0 and 1.
space	Colour space used for interpolation: Lab or rgb.

Value

A character vector of hexadecimal colour values.

Examples

```
gg_palette("meadow")  
gg_palette("ocean", n = 10)  
gg_palette("ember", direction = -1, alpha = 0.8)
```

gg_palette_check	<i>Check palette separation and background contrast</i>
------------------	---

Description

This diagnostic summarizes perceptual separation in CIE Lab space and WCAG-style contrast against a selected background. It is a screening tool, not a guarantee of accessibility in every plot.

Usage

```
gg_palette_check(name = "meadow", n = NULL, background = "#FFFFFF")
```

Arguments

name	Palette name.
n	Number of colours to evaluate.
background	Background colour.

Value

A gg_palette_check object.

Examples

```
gg_palette_check("meadow")
```

gg_palette_info	<i>Inspect the ggpalettes catalogue</i>
-----------------	---

Description

Inspect the ggpalettes catalogue

Usage

```
gg_palette_info(name = NULL, type = c("all", .palette_types))
```

Arguments

name	Optional palette name or vector of names.
type	Palette type used when name is NULL.

Value

A data frame describing palette names, types, sizes, and purposes.

Examples

```
gg_palette_info()
gg_palette_info(type = "categorical")
gg_palette_info("meadow")
```

gg_palette_names	<i>List available ggpalettes palettes</i>
------------------	---

Description

List available ggpalettes palettes

Usage

```
gg_palette_names(type = c("all", .palette_types))
```

Arguments

type	Palette type: all, categorical, sequential, or diverging.
------	---

Value

A character vector containing the available palette names.

Examples

```
gg_palette_names()
gg_palette_names("diverging")
```

gg_palette_plot	<i>Plot a palette catalogue</i>
-----------------	---------------------------------

Description

Plot a palette catalogue

Usage

```
gg_palette_plot(names = NULL, type = c("all", .palette_types), n = 12L)
```

Arguments

names	Optional palette names. Defaults to the selected type.
type	Palette type used when names is NULL.
n	Number of swatches per palette.

Value

A ggplot object.

Examples

```
gg_palette_plot(type = "diverging", n = 9)
```

named_palettes	<i>Named ggpalettes palette functions</i>
----------------	---

Description

These convenience functions follow the `pal_*`() interface popularized by scientific palette packages.

Usage

```
pal_meadow(alpha = 1, reverse = FALSE)
pal_atelier(alpha = 1, reverse = FALSE)
pal_clinical(alpha = 1, reverse = FALSE)
pal_spectrum(alpha = 1, reverse = FALSE)
pal_pastel(alpha = 1, reverse = FALSE)
pal_earth(alpha = 1, reverse = FALSE)
pal_midnight(alpha = 1, reverse = FALSE)
pal_floral(alpha = 1, reverse = FALSE)
pal_coastal(alpha = 1, reverse = FALSE)
pal_harvest(alpha = 1, reverse = FALSE)
pal_aurora(alpha = 1, reverse = FALSE)
pal_ocean(alpha = 1, reverse = FALSE)
pal_ember(alpha = 1, reverse = FALSE)
pal_forest(alpha = 1, reverse = FALSE)
pal_orchid(alpha = 1, reverse = FALSE)
```

```

pal_slate(alpha = 1, reverse = FALSE)
pal_sunrise(alpha = 1, reverse = FALSE)
pal_glacier(alpha = 1, reverse = FALSE)
pal_berry(alpha = 1, reverse = FALSE)
pal_sand(alpha = 1, reverse = FALSE)
pal_balance(alpha = 1, reverse = FALSE)
pal_temperature(alpha = 1, reverse = FALSE)
pal_earthsky(alpha = 1, reverse = FALSE)
pal_rosepine(alpha = 1, reverse = FALSE)
pal_lagoon(alpha = 1, reverse = FALSE)
pal_violetgold(alpha = 1, reverse = FALSE)

```

Arguments

alpha	Opacity between 0 and 1.
reverse	Reverse the palette.

Value

A function accepting the requested number of colours.

named_scales	<i>Named ggpalettes scales</i>
--------------	--------------------------------

Description

Every palette has `scale_color_*`(), `scale_colour_*`(), and `scale_fill_*`() forms. Categorical palettes default to discrete scales; sequential and diverging palettes default to continuous scales.

Usage

```

scale_colour_meadow(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...

```

```
)

scale_color_meadow(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_fill_meadow(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_colour_atelier(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_color_atelier(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_fill_atelier(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_colour_clinical(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)
```

```
)

scale_color_clinical(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_fill_clinical(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_colour_spectrum(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_color_spectrum(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_fill_spectrum(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_colour_pastel(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)
```

```
)

scale_color_pastel(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_fill_pastel(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_colour_earth(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_color_earth(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_fill_earth(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_colour_midnight(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)
```

```
)

scale_color_midnight(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_fill_midnight(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_colour_floral(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_color_floral(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_fill_floral(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_colour_coastal(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)
```

```
)

scale_color_coastal(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_fill_coastal(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_colour_harvest(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_color_harvest(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_fill_harvest(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_colour_aurora(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)
```

```
)

scale_color_aurora(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_fill_aurora(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_colour_ocean(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_color_ocean(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_fill_ocean(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_colour_ember(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)
```

```
)

scale_color_ember(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_fill_ember(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_colour_forest(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_color_forest(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_fill_forest(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_colour_orchid(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)
```

```
)

scale_color_orchid(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_fill_orchid(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_colour_slate(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_color_slate(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_fill_slate(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_colour_sunrise(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)
```

```
)

scale_color_sunrise(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_fill_sunrise(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_colour_glacier(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_color_glacier(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_fill_glacier(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_colour_berry(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)
```

```
)

scale_color_berry(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_fill_berry(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_colour_sand(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_color_sand(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_fill_sand(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_colour_balance(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)
```

```
)

scale_color_balance(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_fill_balance(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_colour_temperature(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_color_temperature(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_fill_temperature(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_colour_earthsky(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)
```

```
)

scale_color_earthsky(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_fill_earthsky(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_colour_rosepine(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_color_rosepine(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_fill_rosepine(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_colour_lagoon(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)
```

```
)

scale_color_lagoon(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_fill_lagoon(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_colour_violetgold(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_color_violetgold(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)

scale_fill_violetgold(
  alpha = 1,
  reverse = FALSE,
  discrete = NULL,
  binned = FALSE,
  ...
)
```

Arguments

alpha	Opacity between 0 and 1.
reverse	Reverse the palette.
discrete	Use a discrete scale. NULL selects from palette type.
binned	Use a binned continuous scale.

... Additional arguments passed to the ggplot2 scale.

Value

A ggplot2 scale object.

pal_ggpalette	Create a palette function
---------------	---------------------------

Description

This follows the palette-function pattern used by scientific palette packages: the returned function accepts the number of colours needed.

Usage

```
pal_ggpalette(  
  name = "meadow",  
  alpha = 1,  
  reverse = FALSE,  
  space = c("Lab", "rgb")  
)
```

Arguments

name	Palette name.
alpha	Opacity between 0 and 1.
reverse	Reverse the palette.
space	Interpolation colour space.

Value

A function with one argument, n.

Examples

```
pal <- pal_ggpalette("atelier")  
pal(6)
```

`scale_colour_ggpalette`*ggplot2 colour and fill scales using ggpalettes*

Description

When discrete is NULL, categorical palettes use a discrete scale and sequential/diverging palettes use a continuous gradient.

Usage

```
scale_colour_ggpalette(  
  name = "meadow",  
  discrete = NULL,  
  binned = FALSE,  
  alpha = 1,  
  direction = 1,  
  space = c("Lab", "rgb"),  
  ...  
)
```

```
scale_color_ggpalette(  
  name = "meadow",  
  discrete = NULL,  
  binned = FALSE,  
  alpha = 1,  
  direction = 1,  
  space = c("Lab", "rgb"),  
  ...  
)
```

```
scale_fill_ggpalette(  
  name = "meadow",  
  discrete = NULL,  
  binned = FALSE,  
  alpha = 1,  
  direction = 1,  
  space = c("Lab", "rgb"),  
  ...  
)
```

Arguments

<code>name</code>	Palette name.
<code>discrete</code>	Use a discrete scale. NULL selects from palette type.
<code>binned</code>	Use a binned continuous scale.

<code>alpha</code>	Opacity between 0 and 1.
<code>direction</code>	Palette direction: 1 or -1.
<code>space</code>	Interpolation colour space.
<code>...</code>	Additional arguments passed to the ggplot2 scale.

Value

A ggplot2 scale object.

Examples

```
library(ggplot2)
ggplot(iris, aes(Sepal.Length, Sepal.Width, colour = Species)) +
  geom_point(size = 2) +
  scale_colour_ggpalette("meadow")
```

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