

Package ‘ggpattern’

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Type Package

Title 'ggplot2' Pattern Geoms

Version 1.0.0

Description

Provides 'ggplot2' geoms filled with various patterns. Includes a patterned version of every 'ggplot2' geom that has a region that can be filled with a pattern. Provides a suite of 'ggplot2' aesthetics and scales for controlling pattern appearances. Supports over a dozen builtin patterns (every pattern implemented by 'gridpattern') as well as allowing custom user-defined patterns.

URL <https://github.com/coolbutuseless/ggpattern>,
<https://coolbutuseless.github.io/package/ggpattern/index.html>

BugReports <https://github.com/coolbutuseless/ggpattern/issues>

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'aab-utils.R' 'geom-.R' 'geom-rect.R' 'geom-bar.R'
'geom-bin2d.R' 'geom-boxplot.R' 'geom-col.R' 'geom-crossbar.R'
'geom-ribbon.R' 'geom-density.R' 'geom-polygon.R' 'geom-map.R'
'geom-sf.R' 'geom-tile.R' 'geom-violin.R' 'ggpattern-defunct.R'
'ggpattern-deprecated.R' 'ggpattern-package.R' 'pattern.R'
'polygon_df.R' 'scale-pattern-alpha.R' 'scale-pattern-brewer.R'
'scale-pattern-colour.R' 'scale-pattern-gradient.R'
'scale-pattern-grey.R' 'scale-pattern-hue.R'
'scale-pattern-linetype.R' 'scale-pattern-shape.R'
'scale-pattern-size.R' 'scale-pattern-iridis.R'
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NeedsCompilation no

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create_polygon_df	<i>Create a polygon_df object from the given coordinates</i>
-------------------	--

Description

code using polygon_df should not assume that the first and last point within each id are the same. i.e. they may have to manually set a final point equal to the initial point if that is what their graphics system desires

Usage

```
create_polygon_df(x, y, id = 1L)
```

Arguments

x, y coordinates of polygon. not necessarily closed.
 id a numeric vector used to separate locations in x,y into multiple polygons

Value

data.frame with x, y, id columns.

Examples

```
df <- create_polygon_df(x = c(0, 0, 1, 1), y = c(0, 1, 1, 0))
is_polygon_df(df)
```

draw_key_polygon_pattern

Key glyphs for legends

Description

Each geom has an associated function that draws the key when the geom needs to be displayed in a legend. These functions are called `draw_key_*`(), where `*` stands for the name of the respective key glyph. The key glyphs can be customized for individual geoms by providing a geom with the `key_glyph` argument (see [layer\(\)](#) or examples below.)

Usage

```
draw_key_polygon_pattern(data, params, size, aspect_ratio = 1)
draw_key_boxplot_pattern(data, params, size, aspect_ratio = 1)
draw_key_crossbar_pattern(data, params, size, aspect_ratio = 1)
```

Arguments

data A single row data frame containing the scaled aesthetics to display in this key
 params A list of additional parameters supplied to the geom.
 size Width and height of key in mm.
 aspect_ratio the geom's best guess at what the aspect ratio might be.

Value

A grid grob.

Examples

```
if (require("ggplot2")) {  
  
  # 'stripe' pattern example  
  df <- data.frame(level = c("a", "b", "c", "d"), outcome = c(2.3, 1.9, 3.2, 1))  
  gg <- ggplot(df) +  
    geom_col_pattern(  
      aes(level, outcome, pattern_fill = level),  
      pattern = 'stripe',  
      fill = 'white',  
      colour = 'black',  
      key_glyph = draw_key_polygon_pattern  
    ) +  
    theme_bw(18) +  
    theme(legend.position = 'none') +  
    labs(  
      title = "ggpattern::geom_col_pattern()",  
      subtitle = "pattern = 'stripe'"  
    )  
  plot(gg)  
}
```

GeomRectPattern

Geom ggproto objects

Description

Geom ggproto objects that could be extended to create a new geom.

Usage

GeomRectPattern

GeomBarPattern

GeomBoxplotPattern

GeomColPattern

GeomCrossbarPattern

GeomRibbonPattern

GeomAreaPattern

GeomDensityPattern

GeomPolygonPattern

GeomMapPattern

GeomSfPattern

GeomTilePattern

GeomViolinPattern

See Also

[ggplot2::Geom](#)

geom_rect_pattern *ggplot2 geoms with support for pattern fills*

Description

All geoms in this package are identical to their counterparts in ggplot2 except that they can be filled with patterns.

Usage

```
geom_rect_pattern(  
  mapping = NULL,  
  data = NULL,  
  stat = "identity",  
  position = "identity",  
  ...,  
  linejoin = "mitre",  
  na.rm = FALSE,  
  show.legend = NA,  
  inherit.aes = TRUE  
)
```

```
geom_bar_pattern(  
  mapping = NULL,  
  data = NULL,  
  stat = "count",  
  position = "stack",  
  ...,  
  width = NULL,  
  binwidth = NULL,  
  na.rm = FALSE,  
  orientation = NA,  
  show.legend = NA,  
  inherit.aes = TRUE
```

```
)  
  
geom_histogram_pattern(  
  mapping = NULL,  
  data = NULL,  
  stat = "bin",  
  position = "stack",  
  ...,  
  binwidth = NULL,  
  bins = NULL,  
  na.rm = FALSE,  
  orientation = NA,  
  show.legend = NA,  
  inherit.aes = TRUE  
)  
  
geom_bin2d_pattern(  
  mapping = NULL,  
  data = NULL,  
  stat = "bin2d",  
  position = "identity",  
  ...,  
  na.rm = FALSE,  
  show.legend = NA,  
  inherit.aes = TRUE  
)  
  
geom_boxplot_pattern(  
  mapping = NULL,  
  data = NULL,  
  stat = "boxplot",  
  position = "dodge2",  
  ...,  
  outlier.colour = NULL,  
  outlier.color = NULL,  
  outlier.fill = NULL,  
  outlier.shape = 19,  
  outlier.size = 1.5,  
  outlier.stroke = 0.5,  
  outlier.alpha = NULL,  
  notch = FALSE,  
  notchwidth = 0.5,  
  varwidth = FALSE,  
  na.rm = FALSE,  
  orientation = NA,  
  show.legend = NA,  
  inherit.aes = TRUE  
)
```

```
geom_col_pattern(  
  mapping = NULL,  
  data = NULL,  
  position = "stack",  
  ...,  
  width = NULL,  
  na.rm = FALSE,  
  show.legend = NA,  
  inherit.aes = TRUE  
)  
  
geom_crossbar_pattern(  
  mapping = NULL,  
  data = NULL,  
  stat = "identity",  
  position = "identity",  
  ...,  
  fatten = 2.5,  
  na.rm = FALSE,  
  orientation = NA,  
  show.legend = NA,  
  inherit.aes = TRUE  
)  
  
geom_ribbon_pattern(  
  mapping = NULL,  
  data = NULL,  
  stat = "identity",  
  position = "identity",  
  ...,  
  na.rm = FALSE,  
  orientation = NA,  
  show.legend = NA,  
  inherit.aes = TRUE,  
  outline.type = "both"  
)  
  
geom_area_pattern(  
  mapping = NULL,  
  data = NULL,  
  stat = "identity",  
  position = "stack",  
  na.rm = FALSE,  
  orientation = NA,  
  show.legend = NA,  
  inherit.aes = TRUE,  
  ...,
```

```
    outline.type = "upper"
  )

geom_density_pattern(
  mapping = NULL,
  data = NULL,
  stat = "density",
  position = "identity",
  ...,
  na.rm = FALSE,
  orientation = NA,
  show.legend = NA,
  inherit.aes = TRUE
)

geom_polygon_pattern(
  mapping = NULL,
  data = NULL,
  stat = "identity",
  position = "identity",
  rule = "evenodd",
  ...,
  na.rm = FALSE,
  show.legend = NA,
  inherit.aes = TRUE
)

geom_map_pattern(
  mapping = NULL,
  data = NULL,
  stat = "identity",
  ...,
  map,
  na.rm = FALSE,
  show.legend = NA,
  inherit.aes = TRUE
)

geom_sf_pattern(
  mapping = aes(),
  data = NULL,
  stat = "sf",
  position = "identity",
  na.rm = FALSE,
  show.legend = NA,
  inherit.aes = TRUE,
  ...
)
```

```
geom_tile_pattern(
  mapping = NULL,
  data = NULL,
  stat = "identity",
  position = "identity",
  ...,
  linejoin = "mitre",
  na.rm = FALSE,
  show.legend = NA,
  inherit.aes = TRUE
)
```

```
geom_violin_pattern(
  mapping = NULL,
  data = NULL,
  stat = "ydensity",
  position = "dodge",
  ...,
  draw_quantiles = NULL,
  trim = TRUE,
  scale = "area",
  na.rm = FALSE,
  orientation = NA,
  show.legend = NA,
  inherit.aes = TRUE
)
```

Arguments

mapping	Set of aesthetic mappings created by <code>aes()</code> or <code>aes_()</code> . If specified and <code>inherit.aes = TRUE</code> (the default), it is combined with the default mapping at the top level of the plot. You must supply mapping if there is no plot mapping.
data	The data to be displayed in this layer. There are three options: If <code>NULL</code> , the default, the data is inherited from the plot data as specified in the call to <code>ggplot()</code> . A <code>data.frame</code> , or other object, will override the plot data. All objects will be fortified to produce a data frame. See <code>fortify()</code> for which variables will be created. A function will be called with a single argument, the plot data. The return value must be a <code>data.frame</code> , and will be used as the layer data. A function can be created from a formula (e.g. <code>~ head(.x, 10)</code>).
stat	The statistical transformation to use on the data for this layer, as a string.
position	Position adjustment, either as a string, or the result of a call to a position adjustment function.
...	Other arguments passed on to <code>layer()</code> . These are often aesthetics, used to set an aesthetic to a fixed value, like <code>colour = "red"</code> or <code>size = 3</code> . They may also be parameters to the paired <code>geom/stat</code> .

linejoin	Line join style (round, mitre, bevel).
na.rm	If FALSE, the default, missing values are removed with a warning. If TRUE, missing values are silently removed.
show.legend	logical. Should this layer be included in the legends? NA, the default, includes if any aesthetics are mapped. FALSE never includes, and TRUE always includes. It can also be a named logical vector to finely select the aesthetics to display.
inherit.aes	If FALSE, overrides the default aesthetics, rather than combining with them. This is most useful for helper functions that define both data and aesthetics and shouldn't inherit behaviour from the default plot specification, e.g. <code>borders()</code> .
width	Bar width. By default, set to 90% of the resolution of the data.
binwidth	The width of the bins. Can be specified as a numeric value or as a function that calculates width from unscaled x. Here, "unscaled x" refers to the original x values in the data, before application of any scale transformation. When specifying a function along with a grouping structure, the function will be called once per group. The default is to use the number of bins in <code>bins</code> , covering the range of the data. You should always override this value, exploring multiple widths to find the best to illustrate the stories in your data. The bin width of a date variable is the number of days in each time; the bin width of a time variable is the number of seconds.
orientation	The orientation of the layer. The default (NA) automatically determines the orientation from the aesthetic mapping. In the rare event that this fails it can be given explicitly by setting orientation to either "x" or "y". See the <i>Orientation</i> section for more detail.
bins	Number of bins. Overridden by binwidth. Defaults to 30.
outlier.colour, outlier.color, outlier.fill, outlier.shape, outlier.size, outlier.stroke, outlier.alpha	Default aesthetics for outliers. Set to NULL to inherit from the aesthetics used for the box. In the unlikely event you specify both US and UK spellings of colour, the US spelling will take precedence. Sometimes it can be useful to hide the outliers, for example when overlaying the raw data points on top of the boxplot. Hiding the outliers can be achieved by setting <code>outlier.shape = NA</code> . Importantly, this does not remove the outliers, it only hides them, so the range calculated for the y-axis will be the same with outliers shown and outliers hidden.
notch	If FALSE (default) make a standard box plot. If TRUE, make a notched box plot. Notches are used to compare groups; if the notches of two boxes do not overlap, this suggests that the medians are significantly different.
notchwidth	For a notched box plot, width of the notch relative to the body (defaults to <code>notchwidth = 0.5</code>).
varwidth	If FALSE (default) make a standard box plot. If TRUE, boxes are drawn with widths proportional to the square-roots of the number of observations in the groups (possibly weighted, using the <code>weight</code> aesthetic).
fatten	A multiplicative factor used to increase the size of the middle bar in <code>geom_crossbar()</code> and the middle point in <code>geom_pointrange()</code> .

outline.type	Type of the outline of the area; "both" draws both the upper and lower lines, "upper"/"lower" draws the respective lines only. "full" draws a closed polygon around the area.
rule	Either "evenodd" or "winding". If polygons with holes are being drawn (using the subgroup aesthetic) this argument defines how the hole coordinates are interpreted. See the examples in <code>grid::pathGrob()</code> for an explanation.
map	Data frame that contains the map coordinates. This will typically be created using <code>fortify()</code> on a spatial object. It must contain columns x or long, y or lat, and region or id.
draw_quantiles	If not (NULL) (default), draw horizontal lines at the given quantiles of the density estimate.
trim	If TRUE (default), trim the tails of the violins to the range of the data. If FALSE, don't trim the tails.
scale	if "area" (default), all violins have the same area (before trimming the tails). If "count", areas are scaled proportionally to the number of observations. If "width", all violins have the same maximum width.

Value

A `ggplot2::Geom` object.

Pattern Arguments

Not all arguments apply to all patterns.

pattern	Pattern name string e.g. 'stripe' (default), 'crosshatch', 'point', 'circle', 'none'
pattern_alpha	Alpha transparency for pattern. default: 1
pattern_angle	Orientation of the pattern in degrees. default: 30
pattern_aspect_ratio	Aspect ratio adjustment.
pattern_colour	Colour used for strokes and points. default: 'black'
pattern_density	Approximate fill fraction of the pattern. Usually in range [0, 1], but can be higher. default: 0.2
pattern_filename	Image filename/URL.
pattern_fill	Fill colour. default: 'grey80'
pattern_fill2	Second fill colour. default: '#4169E1'
pattern_filter	(Image scaling) filter. default: 'lanczos'
pattern_frequency	Frequency. default: 0.1
pattern_gravity	Image placement. default: 'center'
pattern_grid	Pattern grid type. default: 'square'
pattern_key_scale_factor	Scale factor for pattern in legend. default: 1
pattern_linetype	Stroke linetype. default: 1
pattern_option_1	Generic user value for custom patterns.
pattern_option_2	Generic user value for custom patterns.

pattern_option_3 Generic user value for custom patterns.
 pattern_option_4 Generic user value for custom patterns.
 pattern_option_5 Generic user value for custom patterns.
 pattern_orientation 'vertical', 'horizontal', or 'radial'. default: 'vertical'
 pattern_res Pattern resolution (pixels per inch).
 pattern_rot Rotation angle (shape within pattern). default: 0
 pattern_scale Scale. default: 1
 pattern_shape Plotting shape. default: 1
 pattern_size Stroke line width. default: 1
 pattern_spacing Spacing of the pattern as a fraction of the plot size. default: 0.05
 pattern_type Generic control option
 pattern_subtype Generic control option
 pattern_xoffset Offset the origin of the pattern. Range [0, 1]. default: 0. Use this to slightly shift the origin of the pattern. For most patterns, the user should limit the offset value to be less than the pattern spacing.
 pattern_yoffset Offset the origin of the pattern. Range [0, 1]. default: 0. Use this to slightly shift the origin of the pattern. For most patterns, the user should limit the offset value to be less than the pattern spacing.

Examples

```

if (require("ggplot2")) {

  # 'stripe' pattern example
  df <- data.frame(level = c("a", "b", "c", "d"), outcome = c(2.3, 1.9, 3.2, 1))
  gg <- ggplot(df) +
    geom_col_pattern(
      aes(level, outcome, pattern_fill = level),
      pattern = 'stripe',
      fill = 'white',
      colour = 'black'
    ) +
    theme_bw(18) +
    theme(legend.position = 'none') +
    labs(
      title = "ggpattern::geom_col_pattern()",
      subtitle = "pattern = 'stripe'"
    )
  plot(gg)

  # 'pch' pattern example
  gg <- ggplot(mtcars, aes(as.factor(cyl), mpg)) +
    geom_violin_pattern(aes(fill = as.factor(cyl),
      pattern_shape = as.factor(cyl)),
      pattern = 'pch',
      pattern_density = 0.3,
      pattern_angle = 0,

```

```

    colour = 'black'
  ) +
  theme_bw(18) +
  theme(legend.position = 'none') +
  labs(
    title = "ggpattern::geom_violin_pattern()",
    subtitle = "pattern = 'pch'"
  )
plot(gg)

# 'polygon_tiling' pattern example
gg <- ggplot(mtcars) +
  geom_density_pattern(
    aes(
      x = mpg,
      pattern_fill = as.factor(cyl),
      pattern_type = as.factor(cyl)
    ),
    pattern = 'polygon_tiling',
    pattern_key_scale_factor = 1.2
  ) +
  scale_pattern_type_manual(values = c("hexagonal", "rhombille",
                                       "pythagorean")) +
  theme_bw(18) +
  theme(legend.key.size = unit(2, 'cm')) +
  labs(
    title = "ggpattern::geom_density_pattern()",
    subtitle = "pattern = 'polygon_tiling'"
  )
plot(gg)
}

```

Description

These data/functions are Defunct in this release of ggpattern.

1. For `magick_filter_names` use `magick::filter_types()` instead.
2. For `magick_gravity_names` use `magick::gravity_types()` instead.
3. For `magick_pattern_intensity_names` use `gridpattern::names_magick_intensity`.
4. For `magick_pattern_names` use `gridpattern::names_magick`.
5. For `magick_pattern_stripe_names` use `gridpattern::names_magick_stripe`.
6. For `placeholder_names` use `gridpattern::names_placeholder`.

Usage

```

calculate_bbox_polygon_df(...)

convert_img_to_array(...)

convert_polygon_df_to_alpha_channel(...)

convert_polygon_df_to_polygon_grob(...)

convert_polygon_df_to_polygon_sf(...)

convert_polygon_sf_to_polygon_df(...)

create_gradient_img(...)

fetch_placeholder_img(...)

fill_area_with_img(...)

rotate_polygon_df(...)

```

Arguments

... Ignored

is_polygon_df	<i>Test if object is polygon_df or NULL</i>
---------------	---

Description

Test if object is polygon_df or NULL

Usage

```
is_polygon_df(x)
```

Arguments

x object

Value

TRUE if object is polygon_df or NULL

Examples

```

df <- create_polygon_df(x = c(0, 0, 1, 1), y = c(0, 1, 1, 0))
is_polygon_df(df)

```

scale_continuous *Scales for continuous pattern aesthetics*

Description

Scales for continuous pattern aesthetics

Usage

```
scale_pattern_angle_continuous(  
  name = waiver(),  
  breaks = waiver(),  
  labels = waiver(),  
  limits = NULL,  
  range = c(0, 90),  
  trans = "identity",  
  guide = "legend"  
)  
  
scale_pattern_angle_discrete(..., range = c(0, 90))  
  
scale_pattern_density_continuous(  
  name = waiver(),  
  breaks = waiver(),  
  labels = waiver(),  
  limits = NULL,  
  range = c(0, 0.5),  
  trans = "identity",  
  guide = "legend"  
)  
  
scale_pattern_density_discrete(..., range = c(0, 0.5))  
  
scale_pattern_spacing_continuous(  
  name = waiver(),  
  breaks = waiver(),  
  labels = waiver(),  
  limits = NULL,  
  range = c(0.01, 0.1),  
  trans = "identity",  
  guide = "legend"  
)  
  
scale_pattern_spacing_discrete(..., range = c(0.01, 0.1))  
  
scale_pattern_xoffset_continuous(  
  name = waiver(),
```

```
    breaks = waiver(),
    labels = waiver(),
    limits = NULL,
    range = c(0.01, 0.1),
    trans = "identity",
    guide = "legend"
)

scale_pattern_xoffset_discrete(..., range = c(0.01, 0.1))

scale_pattern_yoffset_continuous(
  name = waiver(),
  breaks = waiver(),
  labels = waiver(),
  limits = NULL,
  range = c(0.01, 0.1),
  trans = "identity",
  guide = "legend"
)

scale_pattern_yoffset_discrete(..., range = c(0.01, 0.1))

scale_pattern_aspect_ratio_continuous(
  name = waiver(),
  breaks = waiver(),
  labels = waiver(),
  limits = NULL,
  range = c(0.5, 2),
  trans = "identity",
  guide = "legend"
)

scale_pattern_aspect_ratio_discrete(..., range = c(0.5, 2))

scale_pattern_key_scale_factor_continuous(
  name = waiver(),
  breaks = waiver(),
  labels = waiver(),
  limits = NULL,
  range = c(0.5, 2),
  trans = "identity",
  guide = "legend"
)

scale_pattern_key_scale_factor_discrete(..., range = c(0.5, 2))

scale_pattern_scale_continuous(
  name = waiver(),
```

```
    breaks = waiver(),
    labels = waiver(),
    limits = NULL,
    range = c(0.5, 2),
    trans = "identity",
    guide = "legend"
)

scale_pattern_scale_discrete(..., range = c(0.5, 2))

scale_pattern_phase_continuous(
  name = waiver(),
  breaks = waiver(),
  labels = waiver(),
  limits = NULL,
  range = NULL,
  trans = "identity",
  guide = "legend"
)

scale_pattern_phase_discrete(..., range = NULL)

scale_pattern_frequency_continuous(
  name = waiver(),
  breaks = waiver(),
  labels = waiver(),
  limits = NULL,
  range = NULL,
  trans = "identity",
  guide = "legend"
)

scale_pattern_frequency_discrete(..., range = NULL)

scale_pattern_res_continuous(
  name = waiver(),
  breaks = waiver(),
  labels = waiver(),
  limits = NULL,
  range = NULL,
  trans = "identity",
  guide = "legend"
)

scale_pattern_res_discrete(..., range = NULL)

scale_pattern_rot_continuous(
  name = waiver(),
```

```

breaks = waiver(),
labels = waiver(),
limits = NULL,
range = c(0, 360),
trans = "identity",
guide = "legend"
)

scale_pattern_rot_discrete(..., range = c(0, 360))

```

Arguments

name, breaks, labels, limits, range, trans, guide, ...
 See {ggplot2} documentation for more information on scales.

Value

A `ggplot2::Scale` object.

Examples

```

if (require('ggplot2')) {

  # 'stripe' pattern example
  df <- data.frame(level = c('a', 'b', 'c', 'd'),
                  outcome = c(2.3, 1.9, 3.2, 1))
  gg <- ggplot(df) +
    geom_col_pattern(
      aes(level, outcome, pattern_fill = level,
          pattern_density = outcome),
      pattern = 'stripe',
      fill = 'white',
      colour = 'black'
    ) +
    theme_bw(18) +
    theme(legend.position = 'none') +
    scale_pattern_density_continuous(range = c(0.1, 0.6)) +
    labs(
      title = 'ggpattern::geom_col_pattern()',
      subtitle = 'pattern = \'stripe\''
    )
  plot(gg)
}

```

scale_discrete

Scales for discrete pattern aesthetics

Description

Scales for discrete pattern aesthetics

Usage

```
scale_pattern_continuous(  
  name = waiver(),  
  breaks = waiver(),  
  labels = waiver(),  
  limits = NULL,  
  choices = c("stripe", "crosshatch", "circle"),  
  trans = "identity",  
  guide = "legend"  
)  
  
scale_pattern_discrete(  
  ...,  
  choices = c("stripe", "crosshatch", "circle"),  
  guide = "legend"  
)  
  
scale_pattern_type_continuous(  
  name = waiver(),  
  breaks = waiver(),  
  labels = waiver(),  
  limits = NULL,  
  choices = NULL,  
  trans = "identity",  
  guide = "legend"  
)  
  
scale_pattern_type_discrete(..., choices = NULL, guide = "legend")  
  
scale_pattern_subtype_continuous(  
  name = waiver(),  
  breaks = waiver(),  
  labels = waiver(),  
  limits = NULL,  
  choices = NULL,  
  trans = "identity",  
  guide = "legend"  
)  
  
scale_pattern_subtype_discrete(..., choices = NULL, guide = "legend")  
  
scale_pattern_filename_continuous(  
  name = waiver(),  
  breaks = waiver(),  
  labels = waiver(),  
  limits = NULL,  
  choices = NULL,  
  trans = "identity",
```

```
    guide = "legend"
  )

scale_pattern_filename_discrete(..., choices = NULL, guide = "legend")

scale_pattern_filter_continuous(
  name = waiver(),
  breaks = waiver(),
  labels = waiver(),
  limits = NULL,
  choices = c("lanczos", "box", "spline", "cubic"),
  trans = "identity",
  guide = "legend"
)

scale_pattern_filter_discrete(
  ...,
  choices = c("lanczos", "box", "spline", "cubic"),
  guide = "legend"
)

scale_pattern_gravity_continuous(
  name = waiver(),
  breaks = waiver(),
  labels = waiver(),
  limits = NULL,
  choices = c("center", "north", "south", "east", "west", "northeast", "northwest",
    "southeast", "southwest"),
  trans = "identity",
  guide = "legend"
)

scale_pattern_gravity_discrete(
  ...,
  choices = c("center", "north", "south", "east", "west", "northeast", "northwest",
    "southeast", "southwest"),
  guide = "legend"
)

scale_pattern_orientation_continuous(
  name = waiver(),
  breaks = waiver(),
  labels = waiver(),
  limits = NULL,
  choices = c("horizontal", "vertical", "radial"),
  trans = "identity",
  guide = "legend"
)
```

```

scale_pattern_orientation_discrete(
  ...,
  choices = c("horizontal", "vertical", "radial"),
  guide = "legend"
)

scale_pattern_grid_continuous(
  name = waiver(),
  breaks = waiver(),
  labels = waiver(),
  limits = NULL,
  choices = c("square", "hex"),
  trans = "identity",
  guide = "legend"
)

scale_pattern_grid_discrete(
  ...,
  choices = c("square", "hex"),
  guide = "legend"
)

```

Arguments

name, breaks, labels, limits, trans, guide, ...
 See `{ggplot2}` documentation for more information on scales.

choices vector of values to choose from.

Value

A `ggplot2::Scale` object.

Examples

```

if (require('ggplot2')) {
  gg <- ggplot(mtcars) +
    geom_density_pattern(
      aes(
        x = mpg,
        pattern_fill = as.factor(cyl),
        pattern_type = as.factor(cyl)
      ),
      pattern = 'polygon_tiling',
      pattern_key_scale_factor = 1.2
    ) +
    scale_pattern_type_discrete(choices = gridpattern::names_polygon_tiling) +
    theme_bw(18) +
    theme(legend.key.size = unit(2, 'cm')) +
    labs(

```

```

      title    = 'ggpattern::geom_density_pattern()',
      subtitle = 'pattern = \'polygon_tiling\''
    )
  plot(gg)
}

```

scale_pattern_alpha_continuous

Alpha transparency scales

Description

See `ggplot2::scale_alpha()` for details.

Usage

```
scale_pattern_alpha_continuous(..., range = c(0.1, 1))
```

```
scale_pattern_alpha(..., range = c(0.1, 1))
```

```
scale_pattern_alpha_discrete(...)
```

```
scale_pattern_alpha_ordinal(..., range = c(0.1, 1))
```

Arguments

...	Other arguments passed on to continuous_scale() , binned_scale , or discrete_scale() as appropriate, to control name, limits, breaks, labels and so forth.
range	Output range of alpha values. Must lie between 0 and 1. if (require("ggplot2")) # 'stripe' pattern example <code>df <- data.frame(level = c("a", "b", "c", "d"), outcome = c(2.3, 1.9, 3.2, 1)) gg <- ggplot(df) + geom_col_pattern(aes(level, outcome, pattern_fill = level, pattern_alpha = outcome), pattern_density = 0.6, pattern_size = 1.5, pattern = 'stripe', fill = 'white', colour = 'black', size = 1.5) + theme_bw(18) + theme(legend.position = 'none') + scale_pattern_alpha() + labs(title = "ggpattern::geom_col_pattern()", subtitle = "pattern = 'stripe'") plot(gg)</code>

Value

A `ggplot2::Scale` object.

```
scale_pattern_colour_brewer
  Sequential, diverging and qualitative colour scales from color-
  brewer.org
```

Description

The brewer scales provides sequential, diverging and qualitative colour schemes from ColorBrewer. These are particularly well suited to display discrete values on a map. See <https://colorbrewer2.org> for more information.

Usage

```
scale_pattern_colour_brewer(
  ...,
  type = "seq",
  palette = 1,
  direction = 1,
  aesthetics = "pattern_colour"
)

scale_pattern_fill_brewer(
  ...,
  type = "seq",
  palette = 1,
  direction = 1,
  aesthetics = "pattern_fill"
)

scale_pattern_fill2_brewer(
  ...,
  type = "seq",
  palette = 1,
  direction = 1,
  aesthetics = "pattern_fill2"
)

scale_pattern_colour_distiller(
  ...,
  type = "seq",
  palette = 1,
  direction = -1,
  values = NULL,
  space = "Lab",
  na.value = "grey50",
  guide = guide_colourbar(available_aes = "pattern_colour"),
  aesthetics = "pattern_colour"
```

```

)

scale_pattern_fill_distiller(
  ...,
  type = "seq",
  palette = 1,
  direction = -1,
  values = NULL,
  space = "Lab",
  na.value = "grey50",
  guide = guide_colourbar(available_aes = "pattern_fill"),
  aesthetics = "pattern_fill"
)

scale_pattern_fill2_distiller(
  ...,
  type = "seq",
  palette = 1,
  direction = -1,
  values = NULL,
  space = "Lab",
  na.value = "grey50",
  guide = guide_colourbar(available_aes = "pattern_fill2"),
  aesthetics = "pattern_fill2"
)

```

Arguments

... Other arguments passed on to [discrete_scale\(\)](#), [continuous_scale\(\)](#), or [binned_scale\(\)](#), for brewer, distiller, and fermenter variants respectively, to control name, limits, breaks, labels and so forth.

palette If a string, will use that named palette. If a number, will index into the list of palettes of appropriate type. The list of available palettes can found in the Palettes section.

direction, type, aesthetics, values, space, na.value, guide See `ggplot2::scale_colour_brewer` for more information.

Details

The brewer scales were carefully designed and tested on discrete data. They were not designed to be extended to continuous data, but results often look good. Your mileage may vary.

Value

A `ggplot2::Scale` object.

Palettes

The following palettes are available for use with these scales:

Diverging BrBG, PiYG, PRGn, PuOr, RdBu, RdGy, RdYlBu, RdYlGn, Spectral

Qualitative Accent, Dark2, Paired, Pastel1, Pastel2, Set1, Set2, Set3

Sequential Blues, BuGn, BuPu, GnBu, Greens, Greys, Oranges, OrRd, PuBu, PuBuGn, PuRd, Purples, RdPu, Reds, YlGn, YlGnBu, YlOrBr, YlOrRd

Modify the palette through the palette argument.

Note

The distiller scales extend brewer to continuous scales by smoothly interpolating 7 colours from any palette to a continuous scale. The fermenter scales provide binned versions of the brewer scales.

Examples

```
if (require("ggplot2")) {
  df <- data.frame(level = c("a", "b", "c", "d"),
                   outcome = c(2.3, 1.9, 3.2, 1))
  # discrete 'brewer' palette
  gg <- ggplot(df) +
    geom_col_pattern(
      aes(level, outcome, pattern_fill = level),
      pattern = 'stripe',
      fill = 'white',
      colour = 'black'
    ) +
    theme_bw(18) +
    scale_pattern_fill_brewer()
  plot(gg)

  # continuous 'distiller' palette
  gg <- ggplot(df) +
    geom_col_pattern(
      aes(level, outcome, pattern_fill = outcome),
      pattern = 'stripe',
      fill = 'white',
      colour = 'black'
    ) +
    theme_bw(18) +
    scale_pattern_fill_distiller()
  plot(gg)
}
```

scale_pattern_colour_continuous

Continuous and binned colour scales

Description

See `ggplot2::scale_colour_continuous()` for more information

Usage

```
scale_pattern_colour_continuous(  
  ...,  
  type = getOption("ggplot2.continuous.colour", default = "gradient")  
)  
  
scale_pattern_fill_continuous(  
  ...,  
  type = getOption("ggplot2.continuous.fill", default = "gradient")  
)  
  
scale_pattern_fill2_continuous(  
  ...,  
  type = getOption("ggplot2.continuous.fill", default = "gradient")  
)
```

Arguments

...	Additional parameters passed on to the scale type
type	One of "gradient" (the default) or "viridis" indicating the colour scale to use

Value

A `ggplot2::Scale` object.

Examples

```
if (require("ggplot2")) {  
  df <- data.frame(level = c("a", "b", "c", "d"),  
                  outcome = c(2.3, 1.9, 3.2, 1))  
  gg <- ggplot(df) +  
    geom_col_pattern(  
      aes(level, outcome, pattern_fill = outcome),  
      pattern = 'stripe',  
      fill = 'white',  
      colour = 'black'  
    ) +  
    theme_bw(18) +  
    scale_pattern_fill_continuous()  
  plot(gg)  
}
```

scale_pattern_colour_gradient

Gradient colour scales

Description

See `ggplot2::scale_colour_gradient()` for more information

Usage

```
scale_pattern_colour_gradient(  
  ...,  
  low = "#132B43",  
  high = "#56B1F7",  
  space = "Lab",  
  na.value = "grey50",  
  guide = guide_colourbar(available_aes = "pattern_colour"),  
  aesthetics = "pattern_colour"  
)  
  
scale_pattern_fill_gradient(  
  ...,  
  low = "#132B43",  
  high = "#56B1F7",  
  space = "Lab",  
  na.value = "grey50",  
  guide = guide_colourbar(available_aes = "pattern_fill"),  
  aesthetics = "pattern_fill"  
)  
  
scale_pattern_fill2_gradient(  
  ...,  
  low = "#132B43",  
  high = "#56B1F7",  
  space = "Lab",  
  na.value = "grey50",  
  guide = guide_colourbar(available_aes = "pattern_fill2"),  
  aesthetics = "pattern_fill2"  
)  
  
scale_pattern_colour_gradient2(  
  ...,  
  low = muted("red"),  
  mid = "white",  
  high = muted("blue"),  
  midpoint = 0,  
  space = "Lab",  
  na.value = "grey50",  
  guide = guide_colourbar(available_aes = "pattern_colour"),  
  aesthetics = "pattern_colour"  
)  
  
scale_pattern_fill_gradient2(  
  ...,  
  low = muted("red"),  
  mid = "white",  
  high = muted("blue"),  
  midpoint = 0,  
  space = "Lab",  
  na.value = "grey50",  
  guide = guide_colourbar(available_aes = "pattern_fill"),  
  aesthetics = "pattern_fill"  
)
```

```
    ...,
    low = muted("red"),
    mid = "white",
    high = muted("blue"),
    midpoint = 0,
    space = "Lab",
    na.value = "grey50",
    guide = guide_colourbar(available_aes = "pattern_fill"),
    aesthetics = "pattern_fill"
)

scale_pattern_fill2_gradient2(
  ...,
  low = muted("red"),
  mid = "white",
  high = muted("blue"),
  midpoint = 0,
  space = "Lab",
  na.value = "grey50",
  guide = guide_colourbar(available_aes = "pattern_fill2"),
  aesthetics = "pattern_fill2"
)

scale_pattern_colour_gradientn(
  ...,
  colours,
  values = NULL,
  space = "Lab",
  na.value = "grey50",
  guide = guide_colourbar(available_aes = "pattern_colour"),
  aesthetics = "pattern_colour",
  colors
)

scale_pattern_fill_gradientn(
  ...,
  colours,
  values = NULL,
  space = "Lab",
  na.value = "grey50",
  guide = guide_colourbar(available_aes = "pattern_fill"),
  aesthetics = "pattern_fill",
  colors
)

scale_pattern_fill2_gradientn(
  ...,
  colours,
```

```

  values = NULL,
  space = "Lab",
  na.value = "grey50",
  guide = guide_colourbar(available_aes = "pattern_fill2"),
  aesthetics = "pattern_fill2",
  colors
)

```

Arguments

low, high	Colours for low and high ends of the gradient.
space, ..., na.value, aesthetics	See <code>scales::seq_gradient_pal</code> , <code>scale_colour_hue</code> , <code>ggplot2::continuous_scale</code>
guide	Type of legend. Use "colourbar" for continuous colour bar, or "legend" for discrete colour legend.
mid	colour for mid point
midpoint	The midpoint (in data value) of the diverging scale. Defaults to 0.
colours, colors	Vector of colours to use for n-colour gradient.
values	if colours should not be evenly positioned along the gradient this vector gives the position (between 0 and 1) for each colour in the colours vector. See rescale() for a convenience function to map an arbitrary range to between 0 and 1.

Details

`scale_*_gradient` creates a two colour gradient (low-high), `scale_*_gradient2` creates a diverging colour gradient (low-mid-high), `scale_*_gradientn` creates a n-colour gradient.

Value

A `ggplot2::Scale` object.

Examples

```

if (require("ggplot2")) {
  df <- data.frame(level = c("a", "b", "c", "d"),
                  outcome = c(2.3, 1.9, 3.2, 1))
  gg <- ggplot(df) +
    geom_col_pattern(
      aes(level, outcome, pattern_fill = outcome),
      pattern = 'stripe',
      fill = 'white',
      colour = 'black'
    ) +
    theme_bw(18) +
    scale_pattern_fill_gradient()
  plot(gg)
}

```

scale_pattern_colour_grey
Sequential grey colour scales

Description

Based on [gray.colors\(\)](#). This is black and white equivalent of [scale_pattern_colour_gradient\(\)](#).

Usage

```
scale_pattern_colour_grey(  
  ...,  
  start = 0.2,  
  end = 0.8,  
  na.value = "red",  
  aesthetics = "pattern_colour"  
)  
  
scale_pattern_fill_grey(  
  ...,  
  start = 0.2,  
  end = 0.8,  
  na.value = "red",  
  aesthetics = "pattern_fill"  
)  
  
scale_pattern_fill2_grey(  
  ...,  
  start = 0.2,  
  end = 0.8,  
  na.value = "red",  
  aesthetics = "pattern_fill2"  
)
```

Arguments

..., start, end, na.value, aesthetics
See [ggplot2::scale_colour_grey](#) for more information

Value

A [ggplot2::Scale](#) object.

Examples

```
if (require("ggplot2")) {  
  df <- data.frame(level = c("a", "b", "c", "d"),  
                   outcome = c(2.3, 1.9, 3.2, 1))
```

```

gg <- ggplot(df) +
  geom_col_pattern(
    aes(level, outcome, pattern_fill = level),
    pattern = 'stripe',
    fill    = 'white',
    colour  = 'black'
  ) +
  theme_bw(18) +
  scale_pattern_fill_grey()
plot(gg)
}

```

scale_pattern_colour_hue

Evenly spaced colours for discrete data

Description

This is the default colour scale for categorical variables. It maps each level to an evenly spaced hue on the colour wheel. It does not generate colour-blind safe palettes.

Usage

```

scale_pattern_colour_hue(
  ...,
  h = c(0, 360) + 15,
  c = 100,
  l = 65,
  h.start = 0,
  direction = 1,
  na.value = "grey50",
  aesthetics = "pattern_colour"
)

```

```

scale_pattern_fill_hue(
  ...,
  h = c(0, 360) + 15,
  c = 100,
  l = 65,
  h.start = 0,
  direction = 1,
  na.value = "grey50",
  aesthetics = "pattern_fill"
)

```

```

scale_pattern_fill2_hue(
  ...,
  h = c(0, 360) + 15,

```

```

  c = 100,
  l = 65,
  h.start = 0,
  direction = 1,
  na.value = "grey50",
  aesthetics = "pattern_fill2"
)

```

Arguments

h, c, l, h.start, direction, ...
 See `ggplot2::scale_colour_hue`

na.value Colour to use for missing values

aesthetics Character string or vector of character strings listing the name(s) of the aesthetic(s) that this scale works with. This can be useful, for example, to apply colour settings to the colour and fill aesthetics at the same time, via `aesthetics = c("colour", "fill")`.

Value

A `ggplot2::Scale` object.

Examples

```

if (require("ggplot2")) {
  df <- data.frame(level = c("a", "b", "c", "d"),
                  outcome = c(2.3, 1.9, 3.2, 1))
  gg <- ggplot(df) +
    geom_col_pattern(
      aes(level, outcome, pattern_fill = level),
      pattern = 'stripe',
      fill = 'white',
      colour = 'black'
    ) +
    theme_bw(18) +
    scale_pattern_fill_hue()
  plot(gg)
}

```

scale_pattern_colour_viridis_d

Viridis colour scales from viridisLite

Description

The viridis scales provide colour maps that are perceptually uniform in both colour and black-and-white. They are also designed to be perceived by viewers with common forms of colour blindness. See also <https://bids.github.io/colormap/>.

Usage

```
scale_pattern_colour_viridis_d(
  ...,
  alpha = 1,
  begin = 0,
  end = 1,
  direction = 1,
  option = "D",
  aesthetics = "pattern_colour"
)

scale_pattern_fill_viridis_d(
  ...,
  alpha = 1,
  begin = 0,
  end = 1,
  direction = 1,
  option = "D",
  aesthetics = "pattern_fill"
)

scale_pattern_fill2_viridis_d(
  ...,
  alpha = 1,
  begin = 0,
  end = 1,
  direction = 1,
  option = "D",
  aesthetics = "pattern_fill2"
)

scale_pattern_colour_viridis_c(
  ...,
  alpha = 1,
  begin = 0,
  end = 1,
  direction = 1,
  option = "D",
  values = NULL,
  space = "Lab",
  na.value = "grey50",
  guide = guide_colourbar(available_aes = "pattern_colour"),
  aesthetics = "pattern_colour"
)

scale_pattern_fill_viridis_c(
  ...,
  alpha = 1,
```

```

begin = 0,
end = 1,
direction = 1,
option = "D",
values = NULL,
space = "Lab",
na.value = "grey50",
guide = guide_colourbar(available_aes = "pattern_fill"),
aesthetics = "pattern_fill"
)

scale_pattern_fill2_viridis_c(
  ...,
  alpha = 1,
  begin = 0,
  end = 1,
  direction = 1,
  option = "D",
  values = NULL,
  space = "Lab",
  na.value = "grey50",
  guide = guide_colourbar(available_aes = "pattern_fill2"),
  aesthetics = "pattern_fill2"
)

```

Arguments

... Other arguments passed on to [discrete_scale\(\)](#), [continuous_scale\(\)](#), or [binned_scale](#) to control name, limits, breaks, labels and so forth.

begin, end, alpha, direction, option, values, space, na.value, guide
See `ggplot2::scale_colour_viridis_d` for more information

aesthetics Character string or vector of character strings listing the name(s) of the aesthetic(s) that this scale works with. This can be useful, for example, to apply colour settings to the colour and fill aesthetics at the same time, via `aesthetics = c("colour", "fill")`.

Value

A `ggplot2::Scale` object.

Examples

```

if (require("ggplot2")) {
  df <- data.frame(level = c("a", "b", "c", "d"),
                   outcome = c(2.3, 1.9, 3.2, 1))
  # discrete 'viridis' palette
  gg <- ggplot(df) +
    geom_col_pattern(
      aes(level, outcome, pattern_fill = level),

```

```
      pattern = 'stripe',
      fill     = 'white',
      colour  = 'black'
    ) +
    theme_bw(18) +
    scale_pattern_fill_viridis_d()
  plot(gg)

# continuous 'viridis' palette
gg <- ggplot(df) +
  geom_col_pattern(
    aes(level, outcome, pattern_fill = outcome),
    pattern = 'stripe',
    fill     = 'white',
    colour  = 'black'
  ) +
  theme_bw(18) +
  scale_pattern_fill_viridis_c()
plot(gg)
}
```

scale_pattern_identity

Use values without scaling

Description

Use values without scaling

Usage

```
scale_pattern_identity(..., guide = "none")
scale_pattern_type_identity(..., guide = "none")
scale_pattern_subtype_identity(..., guide = "none")
scale_pattern_angle_identity(..., guide = "none")
scale_pattern_density_identity(..., guide = "none")
scale_pattern_spacing_identity(..., guide = "none")
scale_pattern_xoffset_identity(..., guide = "none")
scale_pattern_yoffset_identity(..., guide = "none")
scale_pattern_alpha_identity(..., guide = "none")
```

```
scale_pattern_linetype_identity(..., guide = "none")
scale_pattern_size_identity(..., guide = "none")
scale_pattern_shape_identity(..., guide = "none")
scale_pattern_colour_identity(..., guide = "none")
scale_pattern_fill_identity(..., guide = "none")
scale_pattern_fill2_identity(..., guide = "none")
scale_pattern_aspect_ratio_identity(..., guide = "none")
scale_pattern_key_scale_factor_identity(..., guide = "none")
scale_pattern_filename_identity(..., guide = "none")
scale_pattern_filter_identity(..., guide = "none")
scale_pattern_gravity_identity(..., guide = "none")
scale_pattern_scale_identity(..., guide = "none")
scale_pattern_orientation_identity(..., guide = "none")
scale_pattern_phase_identity(..., guide = "none")
scale_pattern_frequency_identity(..., guide = "none")
scale_pattern_grid_identity(..., guide = "none")
scale_pattern_res_identity(..., guide = "none")
scale_pattern_rot_identity(..., guide = "none")
```

Arguments

..., guide See `ggplot2` for documentation on identity scales. e.g. `ggplot2::scale_alpha_identity()`

Value

A `ggplot2::Scale` object.

Examples

```
if (require('ggplot2')) {
  df <- data.frame(outcome = c(2.3, 1.9, 3.2, 1),
```

```
      pattern_type = sample(gridpattern::names_polygon_tiling, 4))
gg <- ggplot(df) +
  geom_col_pattern(
    aes(pattern_type, outcome, pattern_fill = pattern_type,
         pattern_type = pattern_type),
    colour = 'black',
    pattern = 'polygon_tiling',
    pattern_key_scale_factor = 1.2
  ) +
  scale_pattern_type_identity() +
  theme_bw(18) +
  theme(legend.position = 'none') +
  labs(
    x = 'level',
    title = 'ggpattern::geom_col_pattern()',
    subtitle = 'pattern = \'polygon_tiling\''
  )
plot(gg)
}
```

scale_pattern_linetype

Scale for line patterns

Description

Default line types based on a set supplied by Richard Pearson, University of Manchester. Continuous values can not be mapped to line types.

Usage

```
scale_pattern_linetype(..., na.value = "blank")
```

```
scale_pattern_linetype_continuous(...)
```

```
scale_pattern_linetype_discrete(..., na.value = "blank")
```

Arguments

... see `ggplot2::scale_linetype` for more information

na.value The linetype to use for NA values.

Value

A `ggplot2::Scale` object.

Examples

```
if (require("ggplot2")) {  
  # 'stripe' pattern example  
  df <- data.frame(level = c("a", "b", "c", "d"), outcome = c(2.3, 1.9, 3.2, 1))  
  gg <- ggplot(df) +  
    geom_col_pattern(  
      aes(level, outcome, pattern_fill = level, pattern_linetype = level),  
      pattern_density = 0.6,  
      pattern_size = 1.5,  
      pattern = 'stripe',  
      fill = 'white',  
      colour = 'black',  
      size = 1.5  
    ) +  
    theme_bw(18) +  
    theme(legend.position = 'none') +  
    scale_pattern_linetype() +  
    labs(  
      title = "ggpattern::geom_col_pattern()",  
      subtitle = "pattern = 'stripe'"  
    )  
  plot(gg)  
}
```

scale_pattern_manual *Create your own discrete scale*

Description

Create your own discrete scale

Usage

```
scale_pattern_manual(..., values, breaks = waiver())  
  
scale_pattern_type_manual(..., values, breaks = waiver())  
  
scale_pattern_subtype_manual(..., values, breaks = waiver())  
  
scale_pattern_angle_manual(..., values, breaks = waiver())  
  
scale_pattern_density_manual(..., values, breaks = waiver())  
  
scale_pattern_spacing_manual(..., values, breaks = waiver())  
  
scale_pattern_xoffset_manual(..., values, breaks = waiver())  
  
scale_pattern_yoffset_manual(..., values, breaks = waiver())
```

```
scale_pattern_alpha_manual(..., values, breaks = waiver())
scale_pattern_linetype_manual(..., values, breaks = waiver())
scale_pattern_size_manual(..., values, breaks = waiver())
scale_pattern_shape_manual(..., values, breaks = waiver())
scale_pattern_colour_manual(..., values, breaks = waiver())
scale_pattern_fill_manual(..., values, breaks = waiver())
scale_pattern_fill2_manual(..., values, breaks = waiver())
scale_pattern_aspect_ratio_manual(..., values, breaks = waiver())
scale_pattern_key_scale_factor_manual(..., values, breaks = waiver())
scale_pattern_filename_manual(..., values, breaks = waiver())
scale_pattern_filter_manual(..., values, breaks = waiver())
scale_pattern_gravity_manual(..., values, breaks = waiver())
scale_pattern_scale_manual(..., values, breaks = waiver())
scale_pattern_orientation_manual(..., values, breaks = waiver())
scale_pattern_phase_manual(..., values, breaks = waiver())
scale_pattern_frequency_manual(..., values, breaks = waiver())
scale_pattern_grid_manual(..., values, breaks = waiver())
scale_pattern_res_manual(..., values, breaks = waiver())
scale_pattern_rot_manual(..., values, breaks = waiver())
```

Arguments

..., values, breaks

See `ggplot2` for documentation on manual scales. e.g. `ggplot2::scale_colour_manual()`

Value

A `ggplot2::Scale` object.

Examples

```

if (require('ggplot2')) {
  gg <- ggplot(mtcars) +
    geom_density_pattern(
      aes(
        x = mpg,
        pattern_fill = as.factor(cyl),
        pattern_type = as.factor(cyl)
      ),
      pattern = 'polygon_tiling',
      pattern_key_scale_factor = 1.2
    ) +
    scale_pattern_type_manual(values = c('hexagonal', 'rhombille',
                                         'pythagorean')) +
    theme_bw(18) +
    theme(legend.key.size = unit(2, 'cm')) +
    labs(
      title = 'ggpattern::geom_density_pattern()',
      subtitle = 'pattern = \'polygon_tiling\''
    )
  plot(gg)
}

```

scale_pattern_shape *Scales for shapes, aka glyphs*

Description

scale_pattern_shape maps discrete variables to six easily discernible shapes. If you have more than six levels, you will get a warning message, and the seventh and subsequent levels will not appear on the plot. Use [scale_pattern_shape_manual\(\)](#) to supply your own values. You can not map a continuous variable to shape unless [scale_pattern_shape_binned\(\)](#) is used. Still, as shape has no inherent order, this use is not advised..

Usage

```
scale_pattern_shape(..., solid = TRUE)
```

```
scale_pattern_shape_discrete(..., solid = TRUE)
```

```
scale_pattern_shape_ordinal(...)
```

```
scale_pattern_shape_continuous(...)
```

Arguments

```
...      other arguments passed to discrete_scale()
solid    Should the shapes be solid, TRUE, or hollow, FALSE?
```

Details

Scales for area or radius

Value

A `ggplot2::Scale` object.

Examples

```
if (require("ggplot2")) {  
  # 'pch' pattern example  
  gg <- ggplot(mtcars, aes(as.factor(cyl), mpg)) +  
    geom_violin_pattern(aes(fill = as.factor(cyl),  
                          pattern_shape = as.factor(cyl)),  
                      pattern = 'pch',  
                      pattern_density = 0.3,  
                      pattern_angle = 0,  
                      colour = 'black'  
    ) +  
  theme_bw(18) +  
  theme(legend.position = 'none') +  
  scale_pattern_shape() +  
  labs(  
    title = "ggpattern::geom_violin_pattern()",  
    subtitle = "pattern = 'pch'"  
  )  
  plot(gg)  
}
```

scale_pattern_size_continuous

Scales for area or radius

Description

Scales for area or radius

Usage

```
scale_pattern_size_continuous(  
  name = waiver(),  
  breaks = waiver(),  
  labels = waiver(),  
  limits = NULL,  
  range = c(1, 6),  
  trans = "identity",  
  guide = "legend"
```

```

)

scale_pattern_size(
  name = waiver(),
  breaks = waiver(),
  labels = waiver(),
  limits = NULL,
  range = c(1, 6),
  trans = "identity",
  guide = "legend"
)

```

Arguments

name, breaks, labels, limits, trans, guide
 See `ggplot2::scale_size` for more information

range
 a numeric vector of length 2 that specifies the minimum and maximum size of the plotting symbol after transformation.

Value

A `ggplot2::Scale` object.

Examples

```

if (require("ggplot2")) {
  # 'circle' pattern example
  df <- data.frame(level = c("a", "b", "c", "d"), outcome = c(2.3, 1.9, 3.2, 1))
  gg <- ggplot(df) +
    geom_col_pattern(
      aes(level, outcome, pattern_fill = level,
          size = outcome, pattern_size = outcome),
      pattern_density = 0.4,
      pattern_spacing = 0.3,
      pattern = 'circle',
      fill = 'white',
      colour = 'black'
    ) +
    theme_bw(18) +
    theme(legend.position = 'none') +
    scale_pattern_size() +
    labs(
      title = "ggpattern::geom_col_pattern()",
      subtitle = "pattern = 'circle'"
    )
  plot(gg)
}

```

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