

Package ‘ggdiceplot’

May 8, 2026

Title DicePlot Visualization for 'ggplot2'

Version 1.2.0

Description Provides 'ggplot2' extensions for creating dice-based visualizations where each dot position represents a specific categorical variable. The package includes 'geom_dice()' for displaying presence/absence of categorical variables using traditional dice patterns. Each dice position (1-6) represents a different category, with dots shown only when that category is present. This allows intuitive visualization of up to 6 categorical variables simultaneously.

License MIT + file LICENSE

Encoding UTF-8

RoxygenNote 7.3.3

URL <https://github.com/maflot/ggdiceplot>

BugReports <https://github.com/maflot/ggdiceplot/issues>

Imports dplyr, ggplot2 (>= 3.4.0), grid, legendry, scales, tibble

LazyData true

Depends R (>= 4.1.0)

NeedsCompilation no

Author Matthias Flotho [aut, cre] (ORCID:
<<https://orcid.org/0009-0006-4374-0801>>)

Maintainer Matthias Flotho <matthias.flotho@ccb.uni-saarland.de>

Repository CRAN

Date/Publication 2026-03-27 16:30:02 UTC

Contents

make_offsets	2
sample_dice_data1	2
sample_dice_data2	3
sample_dice_large	3
sample_dice_miRNA	4
scale_dots_discrete	5
theme_dice	5

Index**6**

make_offsets	<i>Calculate Dice Dot Offsets</i>
--------------	-----------------------------------

Description

Computes the (x, y) offset positions for drawing dots on dice faces.

Usage

```
make_offsets(n, width = 0.5, height = 0.5, pad = 0.1)
```

Arguments

n	Integer from 1 to 6, indicating the number of dots on the die face.
width	Total width of the die face (default: 0.5).
height	Total height of the die face (default: 0.5).
pad	Padding to apply around the dot grid (default: 0.1).

Value

A data.frame with key, x, and y columns indicating dot positions.

sample_dice_data1	<i>Sample Dice Dataset for Visualization</i>
-------------------	--

Description

This toy dataset (sample_dice_data1) is used to demonstrate the geom_dice() function. It simulates log fold-change (LFC) and adjusted p-values (q-values) for a range of oral taxa across disease types and specimen sites.

Usage

```
data(sample_dice_data1)
```

Format

A data frame with 160 rows and 5 columns:

taxon Character. Microbial taxon name (8 taxa).

disease Character. Disease condition (Caries, Periodontitis, Healthy, Gingivitis).

specimen Character. Body site specimen (Saliva, Plaque, Tongue, Buccal, Gingival).

lfc Numeric. Simulated log₂ fold change value; may contain NA.

q Numeric. Simulated adjusted p-value (q-value); may contain NA.

Examples

```
data(sample_dice_data1)
head(sample_dice_data1)
```

sample_dice_data2 *Sample Dice Dataset 2 for Visualization*

Description

sample_dice_data2 is a toy dataset designed to demonstrate `geom_dice()` with multiple specimen types. It simulates log₂ fold-change (LFC) and adjusted p-values (q-values) for oral taxa across disease conditions and specimen sites, with some missing values.

Usage

```
data(sample_dice_data2)
```

Format

A data frame with 160 rows and 5 columns:

taxon Character. Microbial taxon name (8 taxa).

disease Character. Disease condition (Caries, Periodontitis, Healthy, Gingivitis).

specimen Character. Body site specimen (Saliva, Plaque, Tongue, Buccal, Gingival).

lfc Numeric. Simulated log₂ fold change; may contain NA.

q Numeric. Simulated adjusted p-value (q-value); may contain NA.

Examples

```
data(sample_dice_data2)
head(sample_dice_data2)
```

sample_dice_large *Large Sample Dice Dataset*

Description

sample_dice_large is a larger toy dataset with 60 taxa, designed to test `geom_dice()` at higher density. It simulates log₂ fold-change and q-values with approximately 50\

Usage

```
data(sample_dice_large)
```

Format

A data frame with 480 rows and 6 columns:

taxon Character. Taxon name (Taxon_1 through Taxon_60).

disease Character. Disease condition (Caries, Periodontitis, Healthy, Gingivitis).

specimen Character. Specimen type (Saliva, Plaque).

replicate Integer. Replicate identifier.

lfc Numeric. Simulated log2 fold change; may contain NA.

q Numeric. Simulated adjusted p-value; may contain NA.

Examples

```
data(sample_dice_large)
head(sample_dice_large)
```

sample_dice_miRNA	<i>Sample miRNA Dice Dataset</i>
-------------------	----------------------------------

Description

sample_dice_miRNA is a toy dataset for demonstrating geom_dice() with categorical fill mapping. It simulates miRNA dysregulation across compounds and organs, with direction (Up, Down, Unchanged) as the fill variable.

Usage

```
data(sample_dice_miRNA)
```

Format

A data frame with approximately 90 rows and 5 columns:

miRNA Factor. miRNA identifier (miR-1 through miR-5).

Compound Factor. Treatment compound (Control, Compound_1 through Compound_4).

Organ Factor. Target organ (Lung, Liver, Brain, Kidney).

log2FC Numeric. Simulated log2 fold change.

direction Factor. Regulation direction (Down, Unchanged, Up).

Examples

```
data(sample_dice_miRNA)
head(sample_dice_miRNA)
```

scale_dots_discrete	<i>Discrete Scale for Dice Dot Colors</i>
---------------------	---

Description

Creates a ggplot2 discrete scale for dice dot aesthetics.

Usage

```
scale_dots_discrete(..., aesthetics = "dots")
```

Arguments

...	Passed to <code>ggplot2::discrete_scale()</code>
aesthetics	Character string of the target aesthetic (default: "dots")

Value

A ggplot2 scale

theme_dice	<i>Dice Theme for ggplot2</i>
------------	-------------------------------

Description

A minimal ggplot2 theme for dice plots.

Usage

```
theme_dice(x_length, y_length, ...)
```

Arguments

x_length	Width of the plotting area (kept for compatibility)
y_length	Height of the plotting area (kept for compatibility)
...	Additional arguments passed to <code>theme_grey()</code>

Value

A ggplot2 theme

Index

* datasets

sample_dice_data1, 2

sample_dice_data2, 3

sample_dice_large, 3

sample_dice_miRNA, 4

make_offsets, 2

sample_dice_data1, 2

sample_dice_data2, 3

sample_dice_large, 3

sample_dice_miRNA, 4

scale_dots_discrete, 5

theme_dice, 5