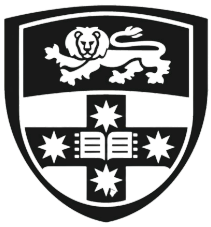
Using `flexplot` to create plots in Jamovi

A video cheatsheet



THE UNIVERSITY OF
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About

This cheatsheet provides a quick reference for using the `flexplot` module in Jamovi to create plots by specifying a formula. Depending on the variable types and the specified formula, `flexplot` can automatically generate a variety of plot types, including scatter plots and box plots.

Assumed knowledge

- Jamovi is installed and ready to use. This cheatsheet uses Jamovi 2.7.4.0.
- A basic understanding of statistical concepts and terminology, such as the difference between categorical and continuous variables.
- A basic knowledge of how to create model formulae, e.g., $y \sim x$.

Data

We will use the well-known penguins dataset from the `palmerpenguins` R package. The dataset has been exported from the package in a format that Jamovi can read (.csv).

Download penguins.csv

Install the `flexplot` module

If you have not already installed the `flexplot` module, you can do so by following these steps:

1. Open the **Modules** tab in Jamovi.
2. Click on **Jamovi Library**.
3. Search for `flexplot` and click **Install**.

assets/20250819-jamovi_flexplot_install.mp4

Import data

1. Click the **hamburger menu** at the top-left of the Jamovi window.
2. Select **Open** to open the file dialogue.
3. In the dialogue, navigate to the folder where you saved `penguins.csv` and click **Open**.

assets/20250819-jamovi_open_penguins.mp4

Plot

Recalling formulae syntax

In most cases, general linear models can be described using a standardised formula syntax. For a response variable that is influenced by a predictor variable, the formula would be:

$$Y \sim X$$

which corresponds to the statement

> The response Y is predicted by X

$$response \sim predictor$$

Plotting

1. In the **Analysis** tab, click on the **Flexplot** option.
2. Select the **response variable** and drag it to the 'Outcome variable' box.
3. Select the **predictor variable** and drag it to the 'Predictor variable' box.
4. Tinker with the plot options to customise the behaviour of the plot.

Examples

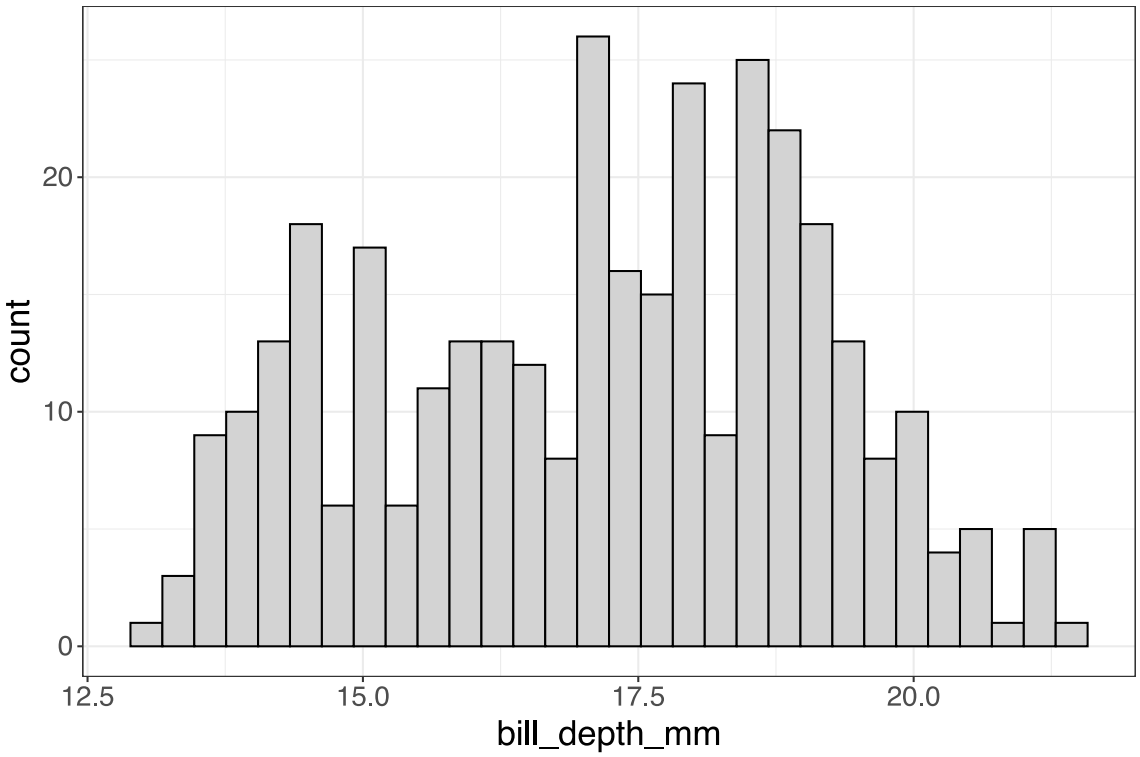
Single continuous Y

This produces a histogram or a boxplot.

Video

assets/20250819-jamovi_histogram.mp4

Histogram



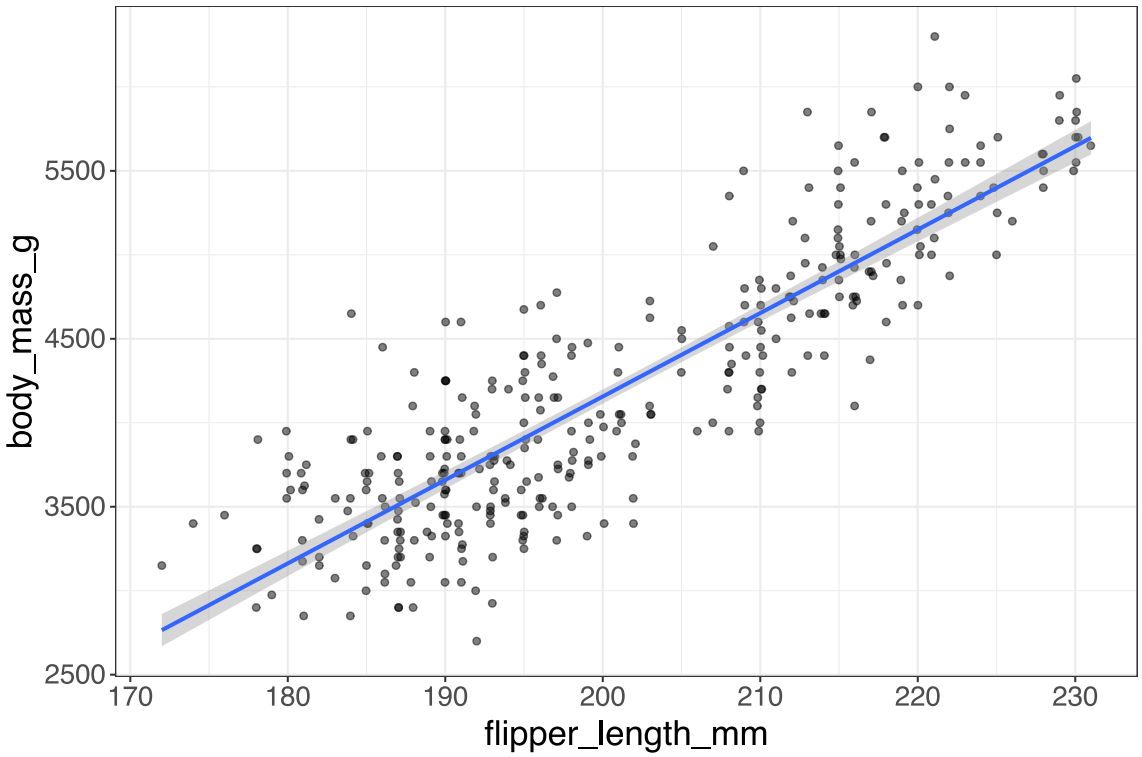
Continuous Y, continuous X

This produces a **scatterplot**. You should explore the options for a fitted line, confidence bands, and jittering.

Video

assets/20250819-jamovi-scatterplot.mp4

Scatter plot



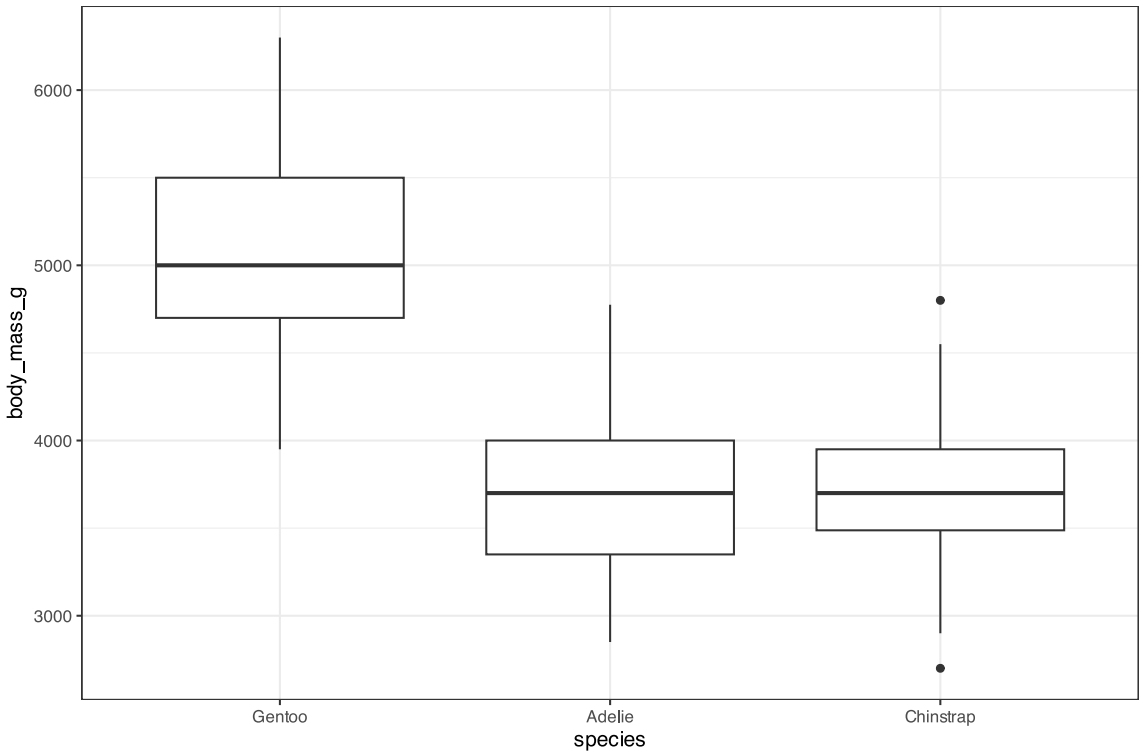
Continuous Y, categorical X

This produces various plots, such as the boxplot and the violin plot. The categorical variable X is used to group the data.

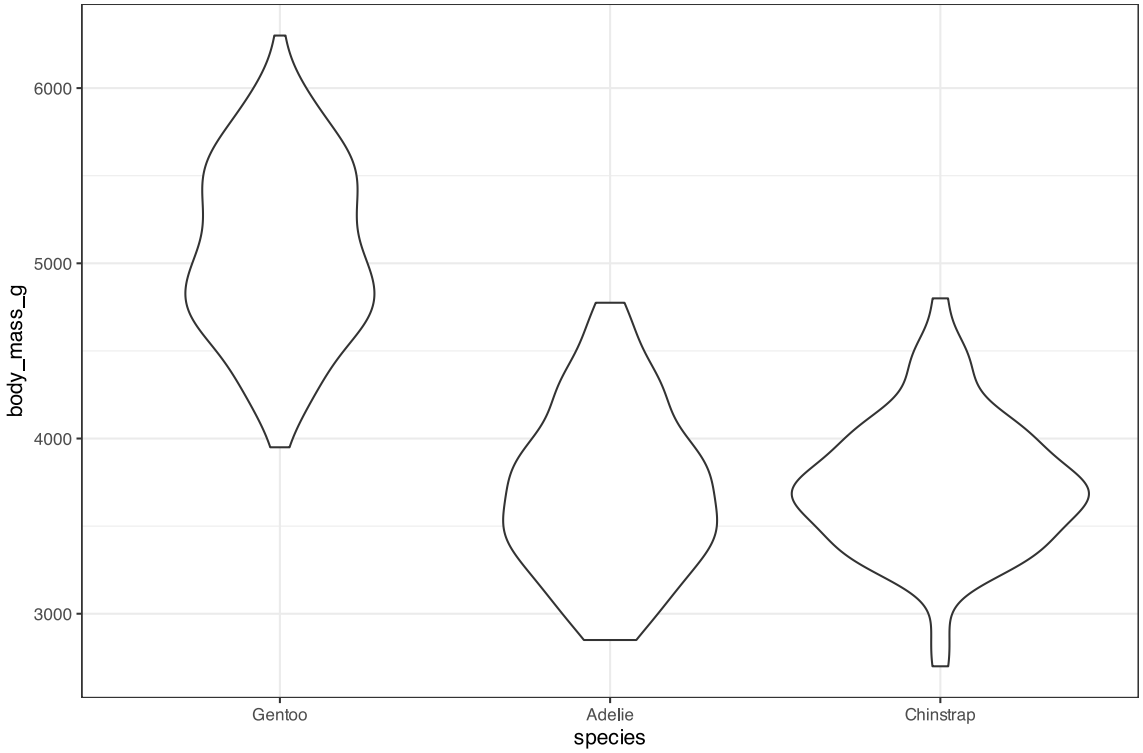
Video

assets/20250819-jamovi-boxplot.mp4

Boxplot


6000
5000
4000
3000
body_mass_g
Gentoo
Adelie
Chinstrap
species

Violin plot



Continuous Y, multiple X

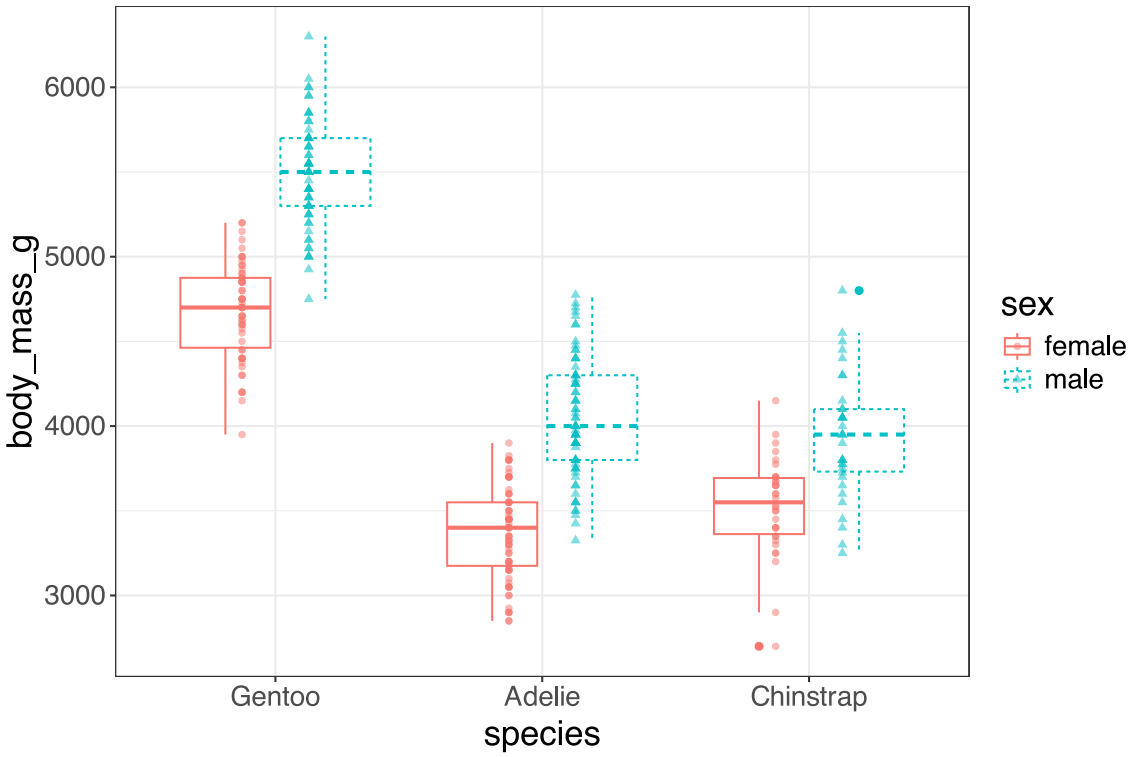
If you add multiple X variables, you can explore more ways to visualise the relationships between them. Use **panelling** to create separate plots for each combination of X variables.

Video

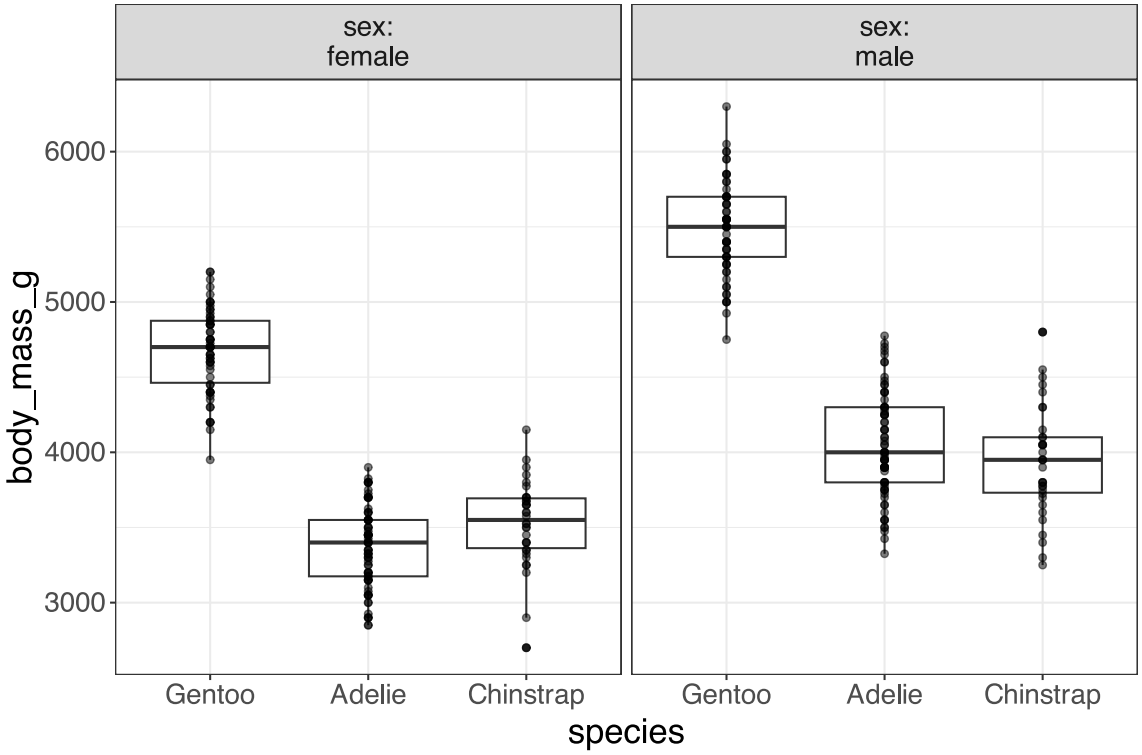
Note: The video explores some of the options available for mixed plots and has no specific focus on a single plot type.

assets/20250819-jamovi-multi-flexplot.mp4

Mixed plot


6000
5000
4000
3000
body_mass_g
Gentoo
Adelie
Chinstrap
species
sex
female
male

Faceted plot



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