

## JMP Analysis of Body Mass of *Canidae*

Enter the body mass data into a single column.

Body Mass (kg) – Data Type is Numeric, Modeling Type is Continuous

Go to **Analyze**

Click on **Distribution**

Cast **Body Mass (kg)** into **Y, Columns**.

Click on OK

The screenshot shows the JMP software interface. The main window displays a data table with columns: Family, Species, and Body Mass (kg). The data table contains 28 rows of data. A dialog box titled "Distribution - JMP" is open, showing the "Cast Selected Columns into Roles" section. The "Y, Columns" role is assigned to "Body Mass (kg)". The "Histograms Only" checkbox is checked. The "Action" buttons include OK, Cancel, Remove, Recall, and Help.

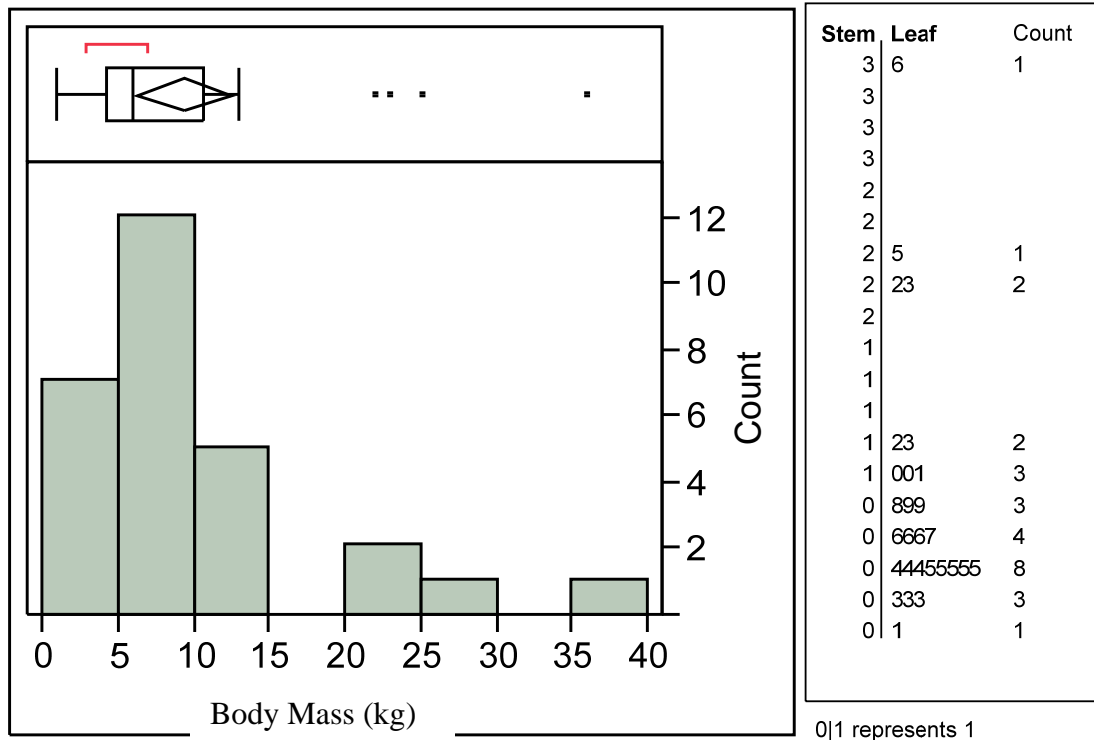
Family	Species	Body Mass (kg)
1 Canidae	Alopex lagopus	5.0
2 Canidae	Atelocynus microtis	10.0
3 Canidae		
4 Canidae		
5 Canidae		
6 Canidae		
7 Canidae		
8 Canidae		
9 Canidae		
10 Canidae		
11 Canidae		
12 Canidae		
13 Canidae		
14 Canidae		
15 Canidae		
16 Canidae		
17 Canidae	Pseudalopex culpaeus	12.0
18 Canidae	Pseudalopex griseus	6.0
19 Canidae	Pseudalopex gymnocerus	6.0
20 Canidae	Speothos venaticus	6.0
21 Canidae	Urocyon cinereoargenteus	5.0
22 Canidae	Vulpes bengalensis	4.0
23 Canidae	Vulpes chama	4.0
24 Canidae	Vulpes ferrilata	5.0
25 Canidae	Vulpes pallida	3.0
26 Canidae	Vulpes rueppelli	3.0
27 Canidae	Vulpes velox	3.0
28 Canidae	Vulpes vulpes	8.0

Click on the Red Triangle next to **Distributions**. Click on **Stack** to obtain a horizontal display.

Click on the Red Triangle next to **Body Mass (kg)**. Click on **Histogram Options – Count Axis** to put a scale and label on the vertical axis. Click on **Stem and Leaf** to include a stem and leaf plot.

Put the cursor on the horizontal axis. The cursor should turn into a hand. Right click and click on **Axis Settings**. This allows you to adjust the intervals for the histogram by specifying a Minimum, Maximum, Increment (the scale) and # of Minor Ticks.

## JMP Output for the Distribution of Body Mass of *Canidae*



### Five Number Summary

100.0%	maximum
75.0%	quartile
50.0%	median
25.0%	quartile
0.0%	minimum

### Sample Statistics

36	Mean	9.2857143
10.75	Std Dev	8.0224553
6	N	28
4.25		
1		

Note the JMP does the stem and leaf display slightly differently than what has been presented in class and in the text. It is a vertical display with larger numbers at the top. Also, JMP splits each stem into 5 pieces.

Note also that JMP calculates the 75% quartile ( $Q_3$ ) and 25% quartile ( $Q_1$ ) slightly differently than what has been presented in the class and text.

The outlier box plot created by JMP has extra features. The center of the diamond is the value of the sample mean. The bracket above the box plot shows where the densest 50% of the data are (basically indicating the mound).

Note that the shape of the box plot matches the shape of the histogram. Both indicate a distribution that is skewed to the right (towards larger values) or a distribution that is mounded and somewhat symmetric between 0 and 15 kilograms with 4 potential outliers.