

# Reference Material

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## 1 Different visualization types found in Biodiversity publications

1. 100% stacked area chart
2. Alluvial diagram
3. Area chart
4. Bar Chart
5. Bar Chart with error bars
6. Beanplot
7. Bifurcation diagram
8. Bubble chart
9. Bubble map
10. Boxplot
11. Chord diagram
12. Choropleth map
13. Circular dendrogram
14. Column chart
15. Column chart with error bars
16. Contour map
17. Contour plot
18. Correlogram
19. Dendrogram
20. Density chart
21. Dot map
22. Dot plot
23. Error plot
24. Flow map
25. Grid heatmap
26. Heatmap
27. Histogram
28. Line chart
29. Map
30. Mosiac bar chart
31. Mosiac column chart
32. Mosiac plot
33. Multiset bar chart
34. Multiset bar chart with error bars
35. Multiset column chart
36. Multiset column chart with error bars
37. Multiset stacked column chart
38. Multiset stacked column chart with error bars
39. Node-link diagram
40. Notched boxplot
41. Ordination scatterplot
42. Pie chart
43. Polar area chart
44. Population pyramid
45. Scatterplot
46. Scatterplot matrix
47. Scatterplot with regression line
48. Span chart
49. Spectrogram
50. Stacked area chart
51. Stacked bar chart
52. Stacked column chart
53. Stacked column chart with error bars
54. Streamgraph
55. Taylor diagram
56. Timeseries
57. Triangle diagram
58. Violin plot
59. Waterfall diagram

## 2 Source of Publication Data

Journal Name	Years	Volumes	Issues	Papers	Images
Basic and Applied Ecology	2000-2006	17	1-17	223	402
Biological Conservation	1996-2016	122	75-196	5942	17044
Journal of Asia-Pacific Biodiversity	2013-2016	4	6-9	133	370
Trends in Ecology Evolution	1995-2016	22	10-31	3086	2969
Forest Ecology and Management	1998-2016	265	103-367	8855	36576
Ecological Modelling	1990-2016	238	90-327	5880	32052
Applied Soil Ecology	1998-2016	96	7-102	2469	7424
				26588	96837

Figure 1: Breakdown of the downloaded publications from different journals

### 3 Class Grouping



Figure 2: Grouping of subclasses into superclasses

## 4 Class Information

Table 1: Example image and caption for each class

Classes	Caption Classes	Source
Ordination Plot	Ordination plot for CCA at facet scale. Only variables with the highest interset correlations are drawn. Species are identified using four letter keys (see Additional file 1: Table S1). Species with underlined keys and square symbols are exotic to the Pampas. Ordination explains 2.8% of total variance.	[WBG14]
Map	Species distributions and environmental layers. Figure (a-d) are distribution maps of species pooled to genera Pinus, Abies, Larix and Picea, respectively, superimposed over background digital elevation model (DEM) maps with 50% transparency. Figure (e) and (f) are maps of the environmental factors gross degree days (GDD) and aridity respectively.	[Kou+14]
Scatterplot	a) Scatterplots of observed species densities and Chao 2 estimates of species richness at replicates in the four habitat types along the transect and b) a scatterplots of species densities collected at the 11 sites as a function of the chronological order of surveys.	[MFI15]
Line Chart	Model logP2-2 uses three hidden neurons and 45 descriptors as input. The voting threshold (indicated by the vertical black dotted line) was 16.5. The horizontal dotted lines running across the thresholds indicate where an error rate of 0.5 would fall. (A) Distribution of predictions (blue) and errors (red) for the external validation set. Dashed lines represent the fitted beta binomial distributions for the corresponding training pool results. (B) Observed (red symbols) error rate profile for the validation set and uncertainty profile (dashed black curve) calculated from the prediction and error distributions fitted to the training pool.	[Cla+14]
Dendrogram	Ecological and phylogenetic clustering of the 15 macroperforate species that overlap between the Tohoku University dataset and the coretop/exemplar dataset. ( a ) Consensus cluster dendrogram of the full-3D Tohoku University specimen morphospace (same as figure 10 c ). ( b ) Ecological cluster dendrogram built using Jaccard distances calculated from three ecological traits ( table 1 ). ( c ) The phylogenetic relationships between the 15 macroperforate species, as pruned and redrawn from Aze et al. 's [ 22 ] stratophenetic phylogeny. Dendrogram tip label colours correspond to morphospace species colours from figure 9.	[HEH16]
Column Chart	Comparing the performance of the proposed method with our previous methods. A: indicated the prediction results of defensin family; B: indicated the prediction results of vertebrate defensin subfamily.	[Zuo+15]
Heatmap	The heatmap shows the adjacent correlation of 13 reduced amino acids for five different defensin families.	[Zuo+15]

Table 2: Table 1 continued

	Boxplot	Boxplots of the effects of species richness on respiratory activity under constant temperature conditions.	[LPS12]
	Area Chart	Initial aerosol (a) number density and (b) mass density size distributions for all simulations.	[PZL15]
	Network	Soil food web diagram representative for all three land use types in the Koiliaris Critical Zone Observatory (Crete, GR). Boxes represent the presence of trophic groups in the soil food web, arrows represent feeding interactions based on diet information (the arrow points from the group eaten to the group that eats). Groups with drawn boxes were present at all sites, groups with dashed boxes were only present at some sites.	[Lee+15]
	Histogram	Histograms of gap frequency by duration for (a) drivers and (b) fluxes and histograms of the fraction of total gap length for (c) drivers and (d) fluxes.	[Iza+17]
	Timeseries	Timeseries of anomalous SLP at 40°W; 60°S (black line) and timeseries of NE SPI (blue line).	[Alb15]
	No-viz	Conceptual diagram of macrofaunal diversity, density and composition patterns along a fluid-flux gradient in the chemosynthetic ecosystems of the Guaymas Basin.	[Por+15]
	Pie Chart	Pie chart showing the functional classifications . The 44 identified proteins were categorized into 8 different functional categories. The pie chart represents the percentage of identified proteins under each category. The percentages are shown within the pie chart.	[Wan+08]
	Stack Area Chart	Model Energy Budget . Area chart showing breakdown of energy usage stacked to show contribution to total predicted energy delivered.	[Jar+10]

## 5 Confusion Matrix

Table 3: Distributions of the false positive cases over their actual classes. Each row contains the distribution for one binary classifier. The values run from 0.0 to 1.0 and sum to one per row

	A	B	C	D	HM	HG	L	M	N	NV	O	P	SP	ST	T
Area Chart (A)	0	0.20	0	0	0.20	0	0.20	0	0	0	0.20	0	0	0	0.20
Boxplot (B)	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0
Column Chart (C)	0.03	0.39	0	0.08	0	0	0.08	0	0.03	0	0.05	0.05	0.13	0	0.16
Dendrogram (D)	0	0	0	0	0	0	0	0	0	0.40	0.20	0.20	0	0	0.20
Heatmap (HM)	0.03	0	0	0	0	0	0.03	0	0.03	0.03	0.05	0.30	0	0.49	0.05
Histogram (HG)	0	0.50	0	0	0	0	0	0	0	0	0	0	0.50	0	0
Line Chart(L)	0	0	0	0	0.04	0	0	0.13	0	0	0	0	0.50	0	0.33
Map (M)	0	0.03	0.03	0.06	0.03	0	0	0.03	0	0.03	0.10	0.45	0	0	0.16
Network (N)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NoViz (NV)	0	0.10	0	0.10	0.10	0	0	0.20	0.10	0	0.30	0.10	0	0	0
Ordination Plot (O)	0	0.29	0.14	0.29	0	0	0	0	0	0.14	0	0	0.14	0	0
Pie Chart (P)	0.03	0	0.08	0.03	0.38	0	0.03	0.28	0.03	0.03	0	0	0.05	0.08	0
Scatterplot (SP)	0	0.08	0	0	0	0	0.54	0.08	0	0	0.13	0	0	0	0.17
Stack Area Chart (S)	0	0.06	0	0	0.17	0	0	0.11	0	0	0.06	0.56	0.06	0	0
Timeseries (T)	0.10	0.10	0.10	0	0	0	0.20	0.20	0	0.20	0	0	0.10	0	0

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