ECOLOGICAL RESEARCH

PLANT SPECIES BIOLOGY

Population Ecology

How to improve your figures

Your manuscript can be more attractive!

Ver. 2.5

Editorial Office, Ecological Society of Japan

28 Aug 2023

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Note: Items in red are required.
Revisions will be requested as necessary.

1. Typographical rules

(i) Unit

- Surround a unit in round parentheses, rather than square brackets.

(e.g.)

Nitrogen[%]
%Nitrogen ➡ Nitrogen (%)

- Use slash or indices to indicate *per* to separate unit of measurement.

(e.g.)

g *per* cm^3 ➡ g/cm^3
$g\ cm^{-3}$

- Slashes or indices in units will be used as per the author's preference.

(e.g.)

nmol/hr/mg
or
$nmol\ hr^{-1}\ mg^{-1}$

- Do not use the roman letter "u" as a substitute for "μ".

(e.g.)

1 um ➡ 1 μm

Note: Items in red are required. Revisions will be requested as necessary.

1. Typographical rules

(ii) Multiplication sign

- For the multiplication sign, use "×", rather than an asterisk "*", a centered dot "·" or the roman letter "x".

(e.g.)

a*b
a x b

➡

a × b
(or "ab")

How to input
Windows
1) Input "00d7"
2) Select it
3) press Alt + X

Mac
Enter "00d7" with pressing Option key in "Unicode Hex Input mode".

(iii) Upper/lowercase

- Use lowercase letters for character strings, except for the initial letter.

(e.g.)

leaf weight
LEAF WEIGHT
Leaf Weight

➡

Leaf weight

(iv) Period/comma

- Use periods for decimal points. Do not use commas as substitutes.

(e.g.)

0,3
0,05

➡

0.3
0.05

Note: Items in red are required. Revisions will be requested as necessary.

1. Typographical rules

(v) Space

- Space is needed between a value and a unit.

(e.g.)

400m → 400 m
10g → 10 g

- Spaces are needed before and after mathematical symbols: e.g. +, −, ±, >, =, ...etc.

(e.g.)

1.3±0.3 → 1.3 ± 0.3
a=b → a = b

(vi) Dash & minus sign

- Use an en-dash rather than a hyphen for a range of values.

(e.g.)

0-100 → 0–100
2009-2011 → 2009–2011

How to input
Windows
1) Input "2013"
2) Select it
3) press Alt + X

Mac
Enter "2013" with pressing Option key in "Unicode Hex Input mode".

- Use a minus sign "–" for negative values
- Do not use a hyphen as a substitute.

(e.g.)

-1 → −1

How to input
Windows
1) Input "2212"
2) Select it
3) press Alt + X

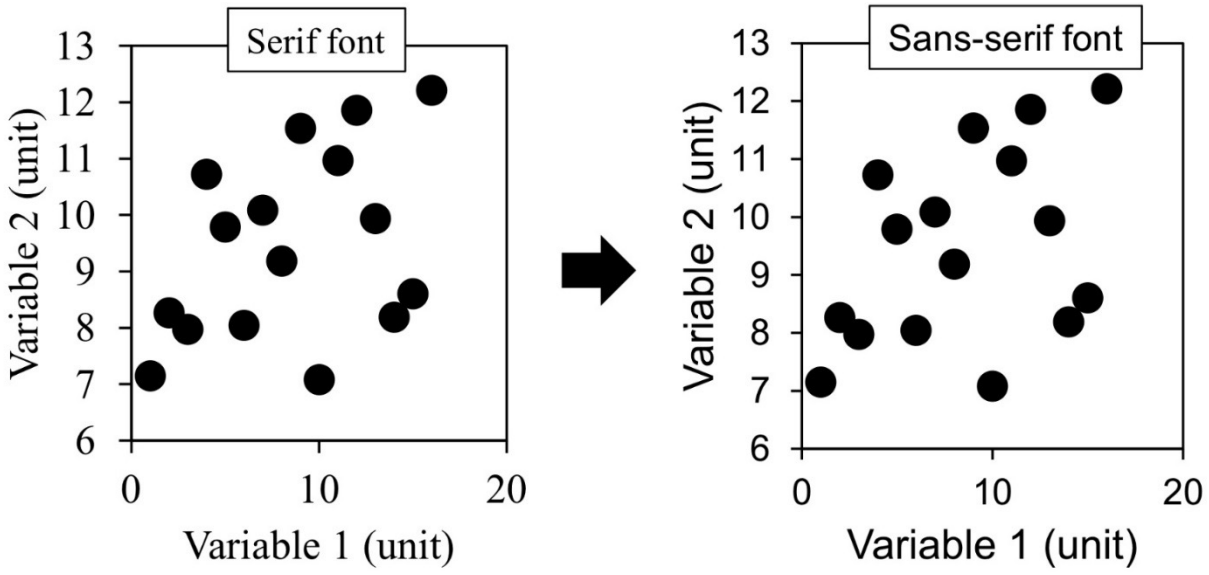
Mac
Enter "2212" with pressing Option key in "Unicode Hex Input mode".

Note: Items in red are required. Revisions will be requested as necessary.

2. Formatting rules

(i) Font type

- Use a sans-serif font. Helvetica or Arial is preferred.



- Use the same font type throughout the figures.

FIGURE 1

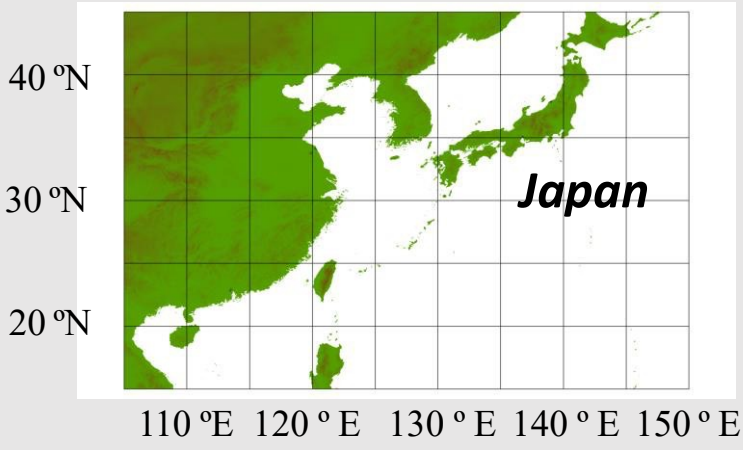
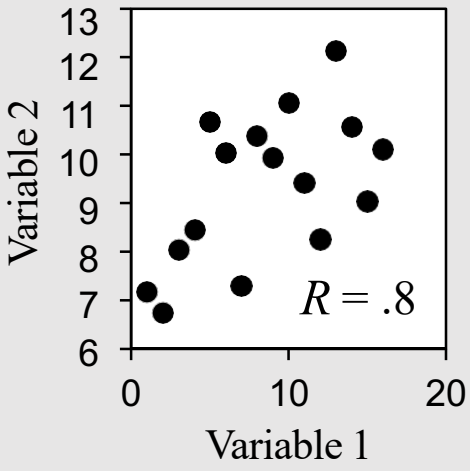
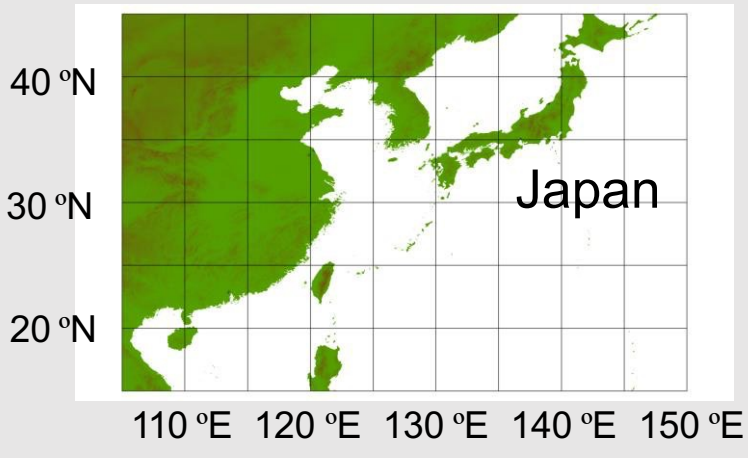
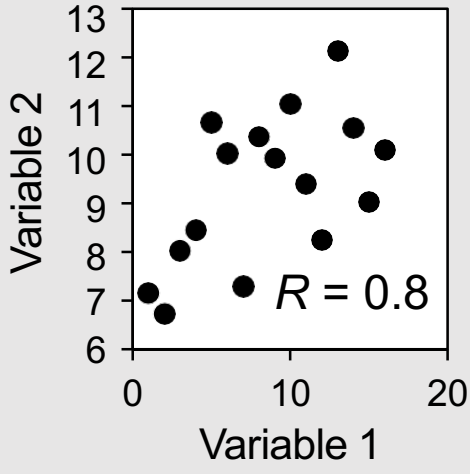


FIGURE 2



Unify the font type (Arial)



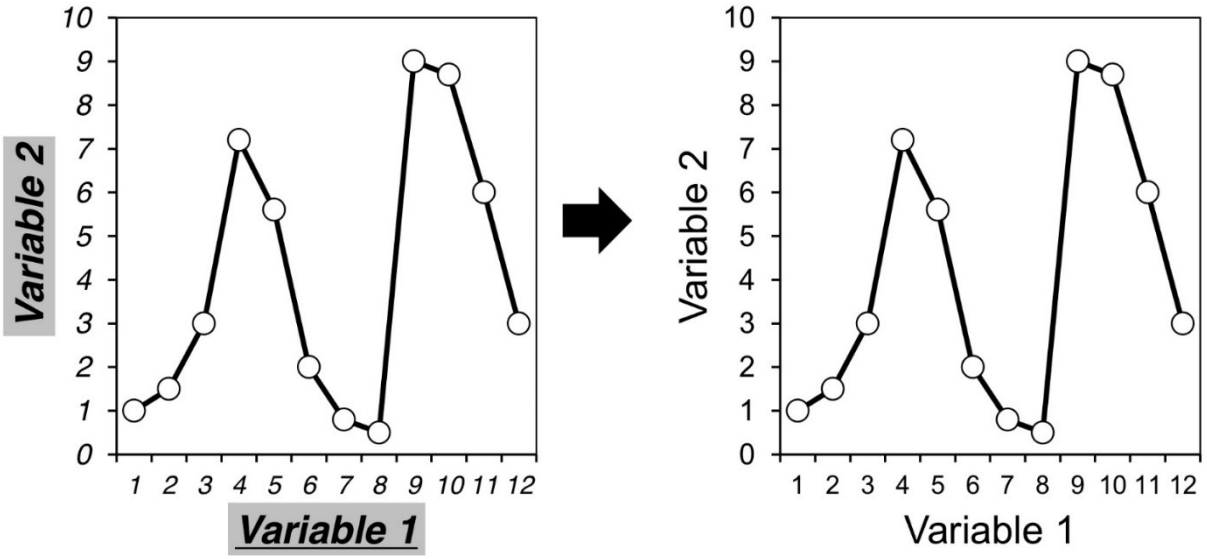


Note: Items in red are required. Revisions will be requested as necessary.

2. Formatting rules

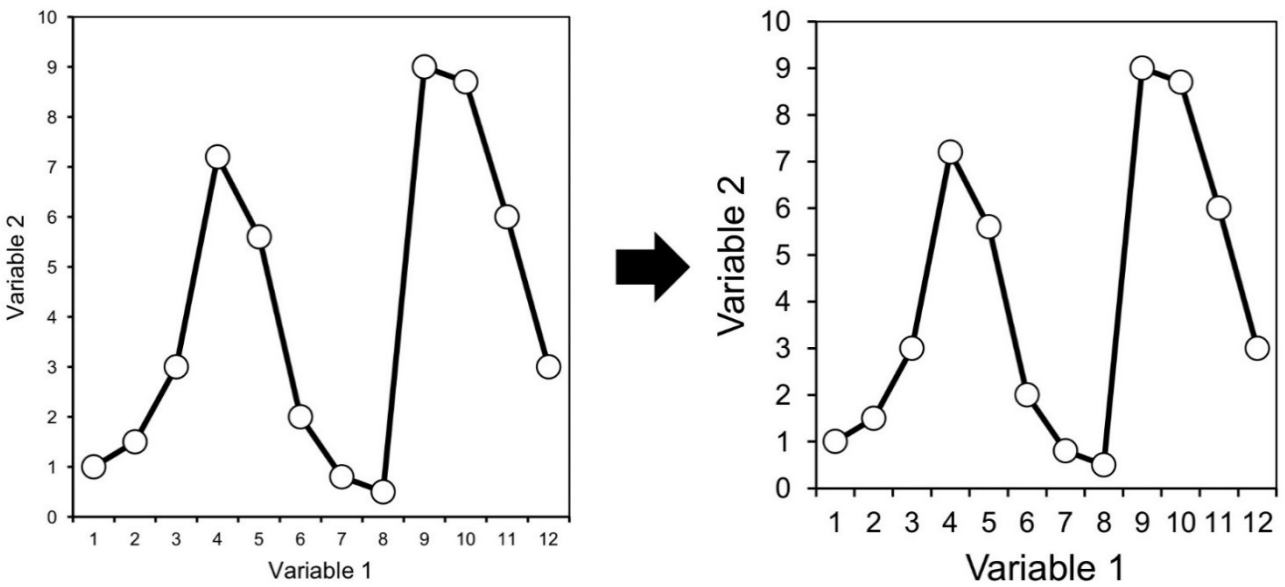
(ii) Font style

- Use normal font (e.g. not italic, not underlined).



(iii) Font size

- Minimum font size is 8 pt or more in printed size.



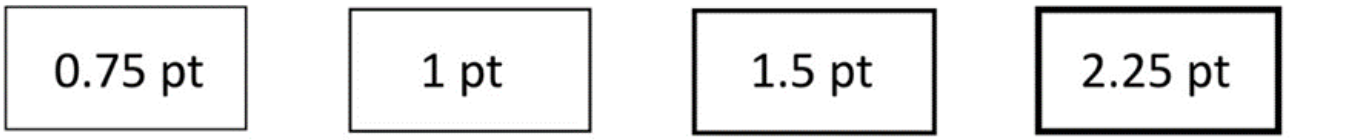
6 pt 8 pt 10 pt 12 pt

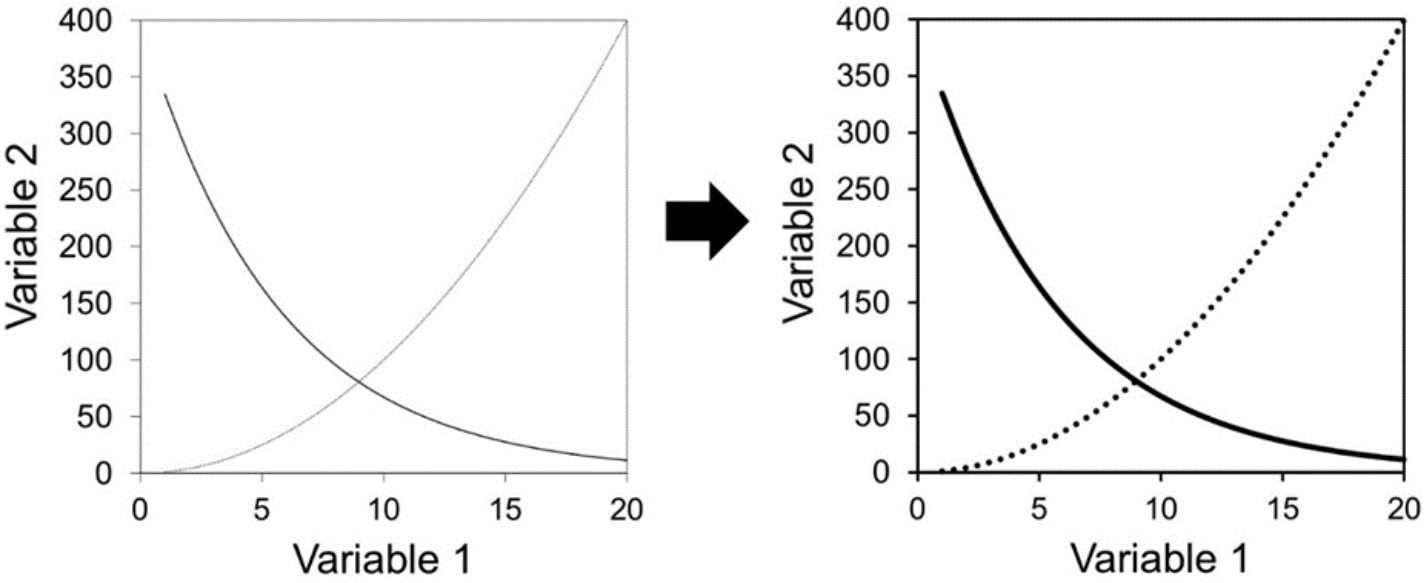
Note: Items in red are required. Revisions will be requested as necessary.

2. Formatting rules

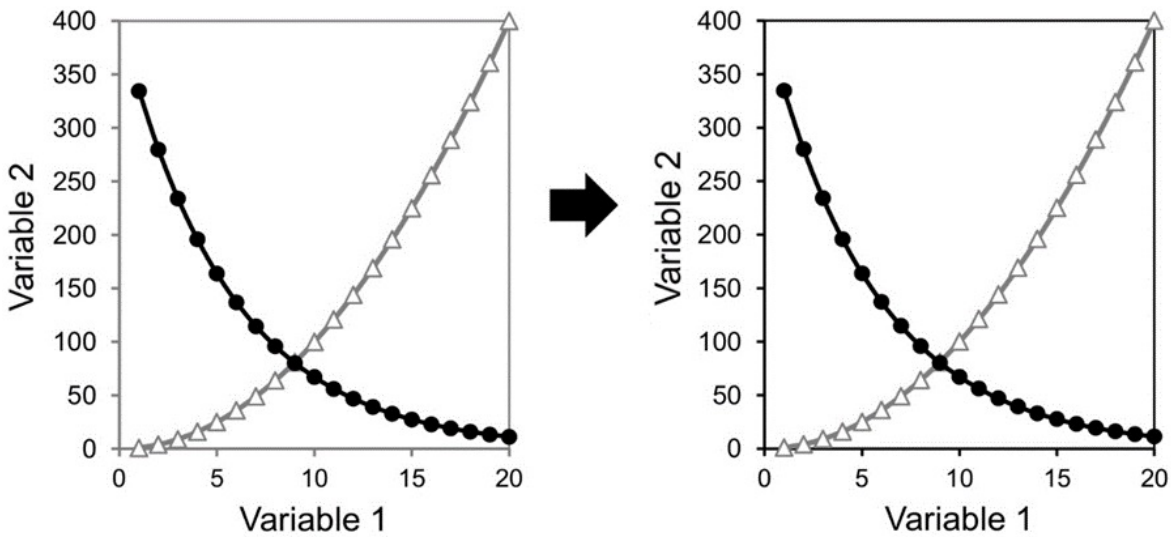
(iv) Line width & color

- Line thickness should be 0.75 pt or more.





- Use black color for axes and frames.

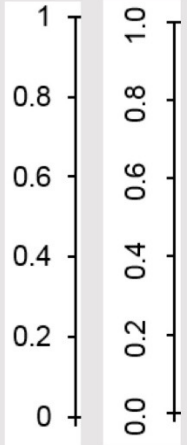


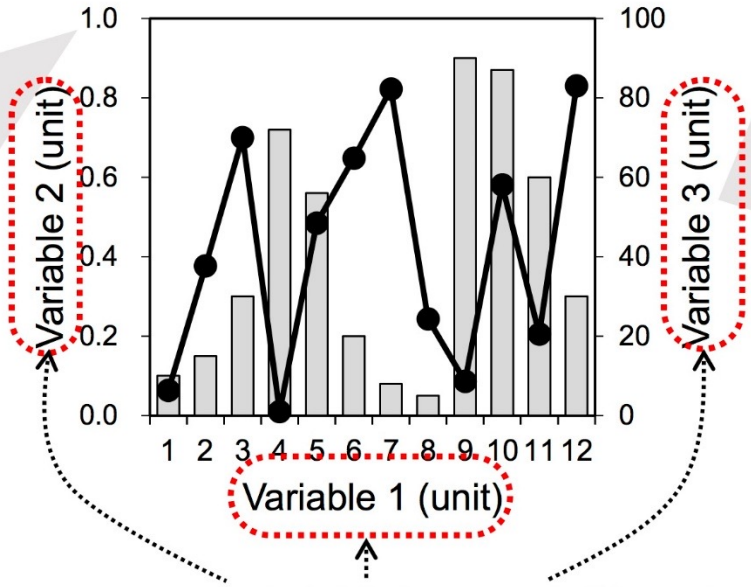
3. Construction guides

(i) Bar-plots, scatter-plots, line graphs…etc.

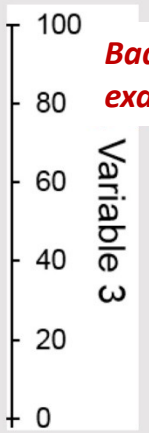
- Show tick-mark labels horizontally.
- Use the same number of display digits after the decimal point within axes.
- Use the same direction for axis labels.

Bad example



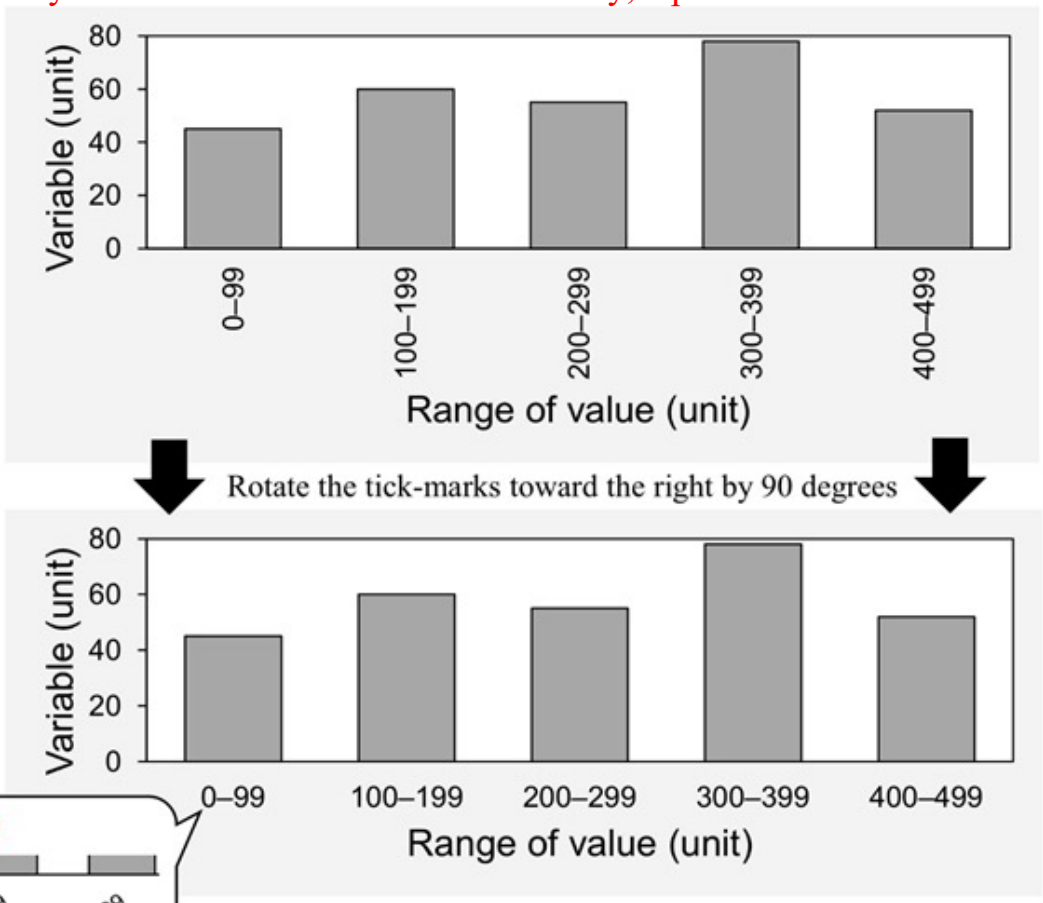


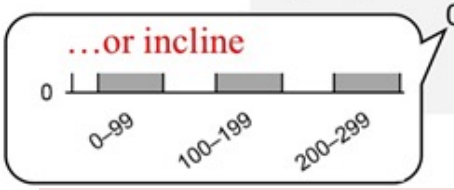
Bad example



- Axis labels are needed for each axis.

- Show categorically defined tick-mark labels horizontally, if possible.



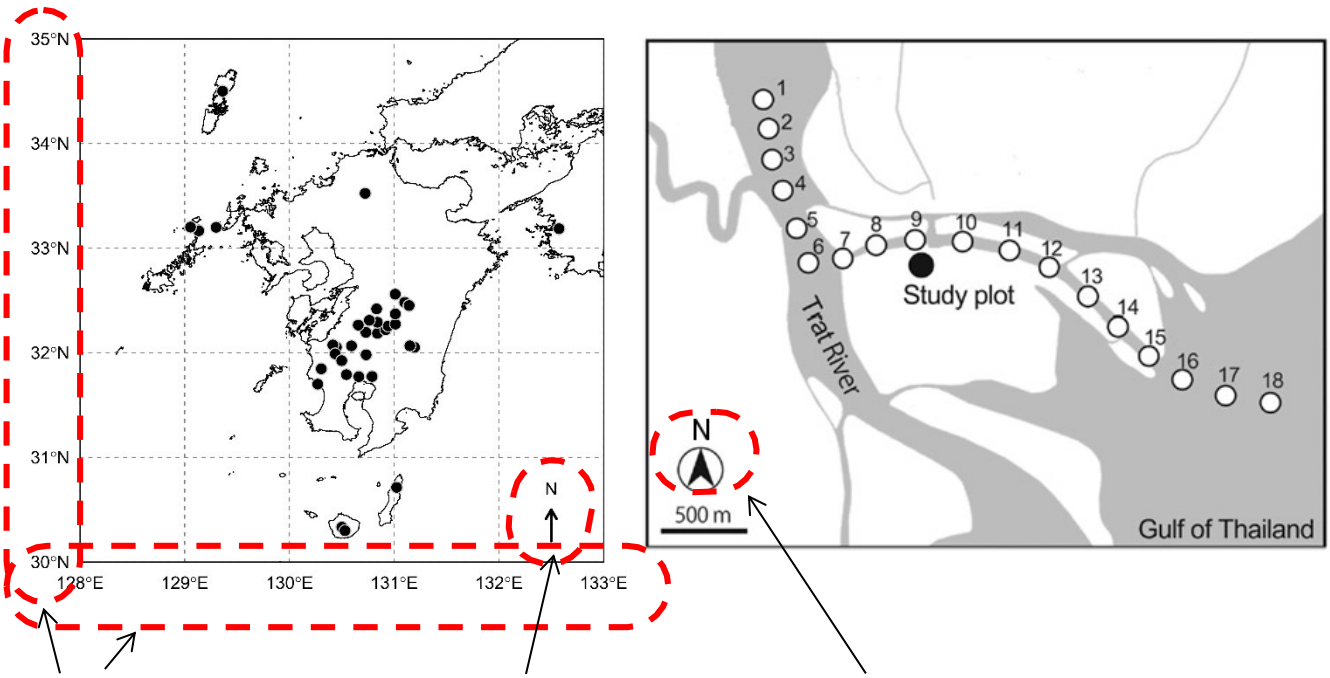


Note: Items in red are required. Revisions will be requested as necessary.

3. Construction guides

(ii) Geographical maps

- Objects should be clearly distinguished from their background.

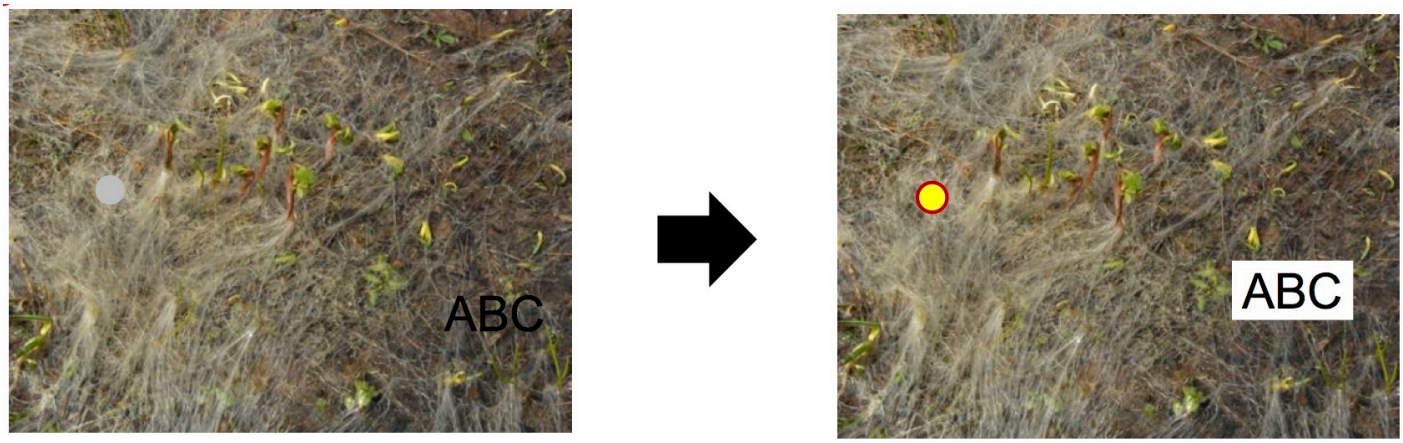


- Geographical coordinates and compass points are necessary for large scale map.

- Scale-bar is necessary in small scale map.

(iii) Photographs

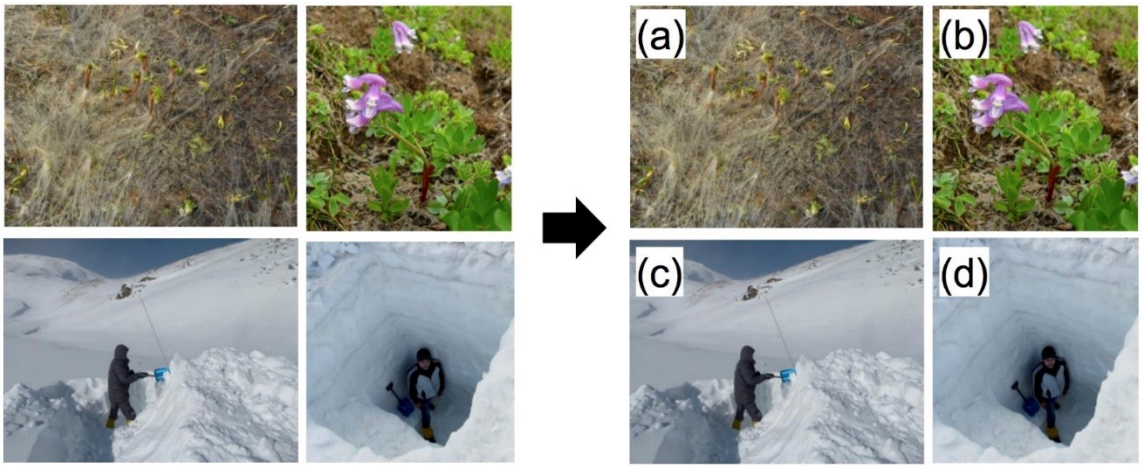
- When you insert texts or symbols on a photograph, use an easily distinguishable design.



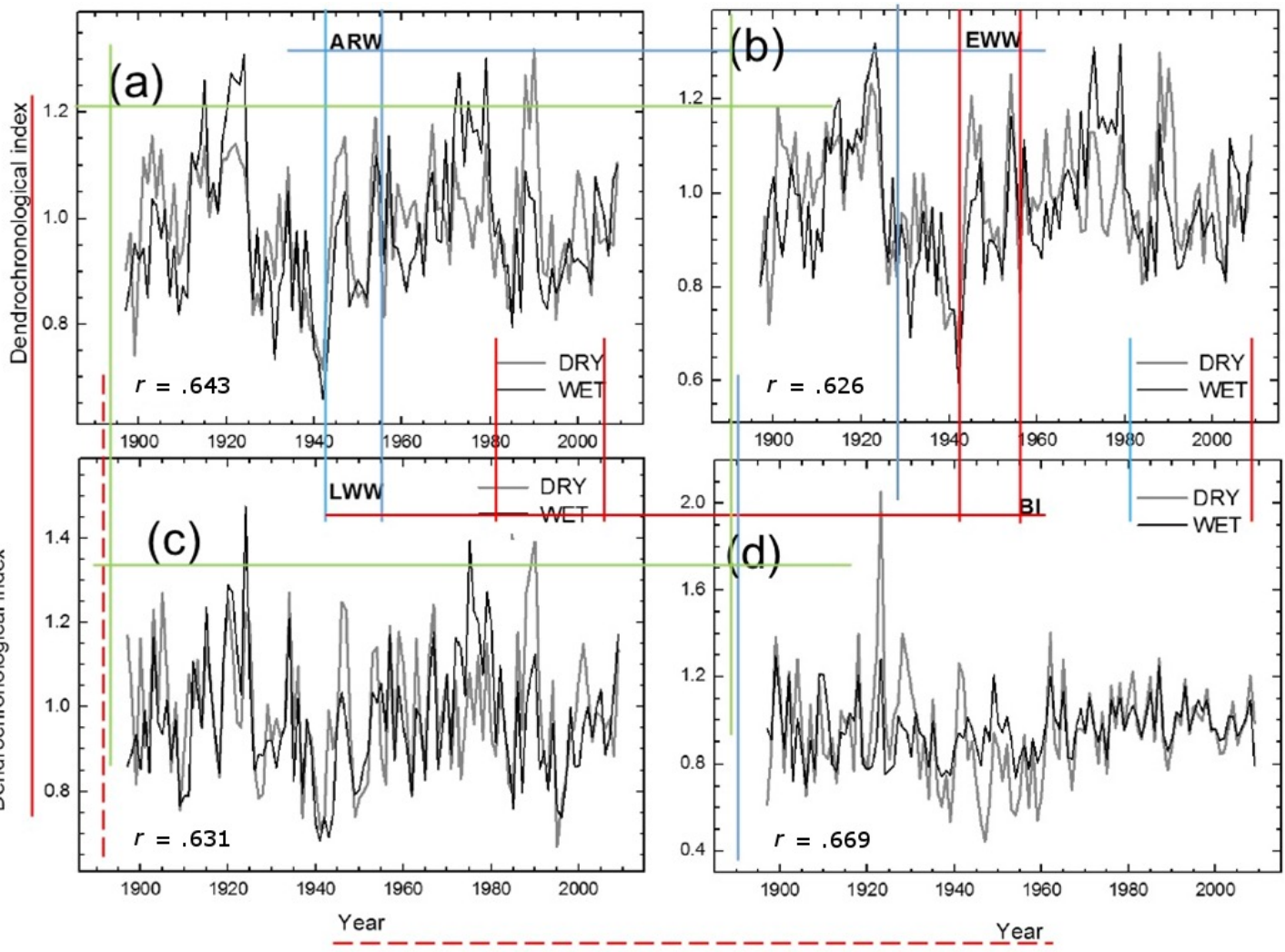
Note: Items in red are required. Revisions will be requested as necessary.

4. Guides for multiple panels

- Provide panel labels for each panel.
-- lowercase roman letters with round parentheses are recommended.
-- use more than 10 pt in bold face.
-- place the top left corner (as much as possible), and should be aligned in vertical/horizontal.



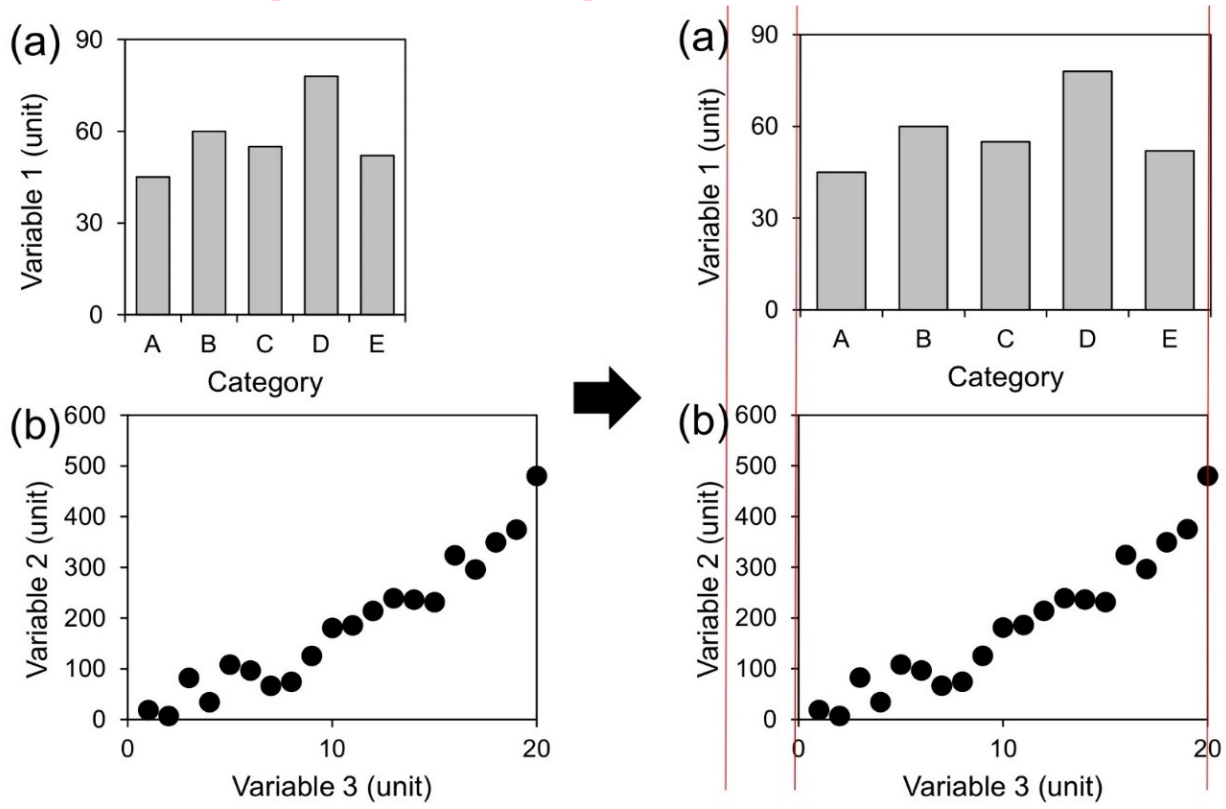
- Align figure parts (e.g. panels, panel labels, axis labels, graphic legends, statistical significance codes…etc.) among panels.



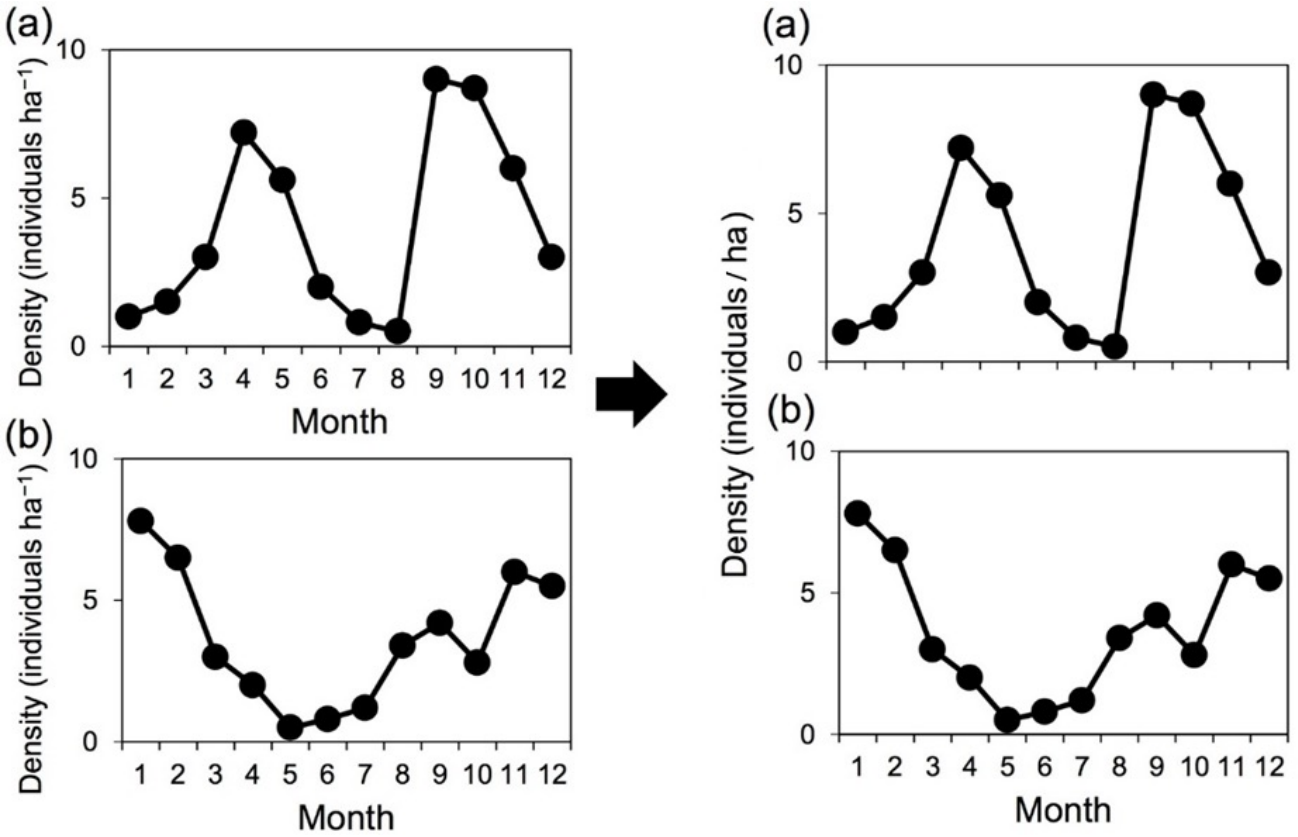
Note: Items in red are required. Revisions will be requested as necessary.

4. Guides for multiple panels

- Make the size of the panels as uniform as possible.



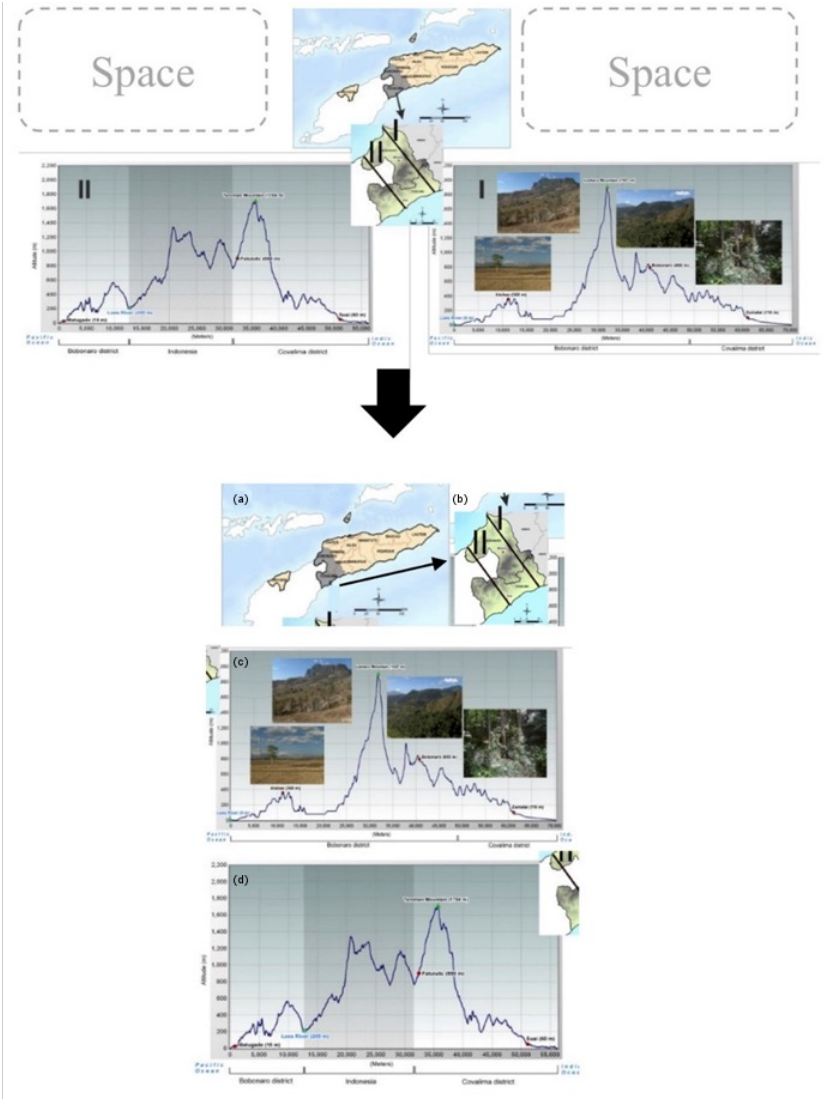
- Consolidate the axis labels (and tick-mark labels) if possible.



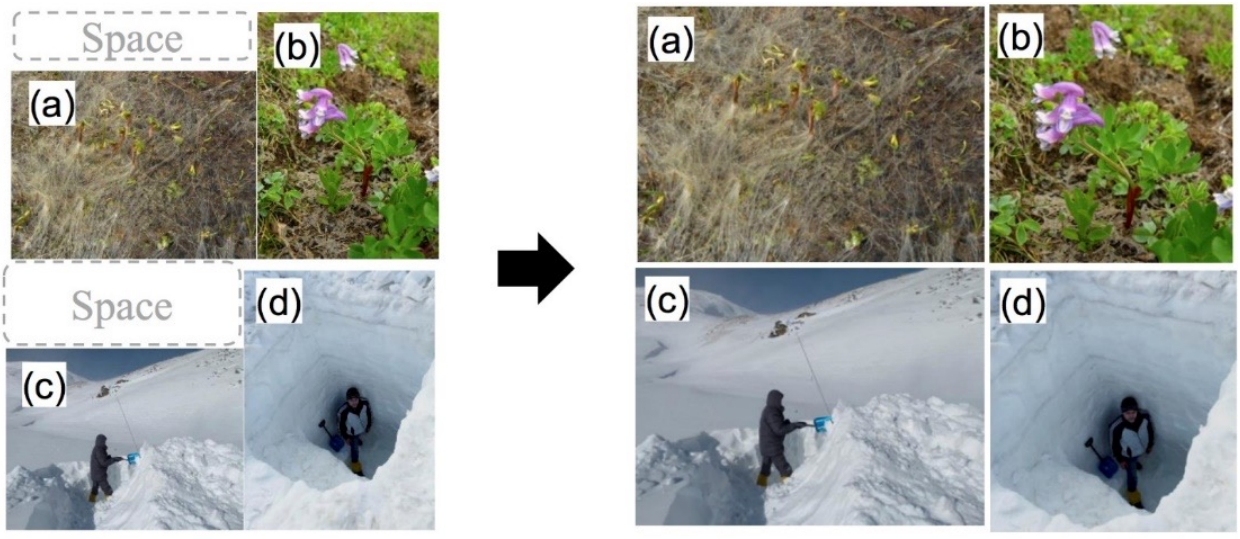
Note: Items in red are required. Revisions will be requested as necessary.

5. Reducing unnecessary space

- Adjusting layout of panels.



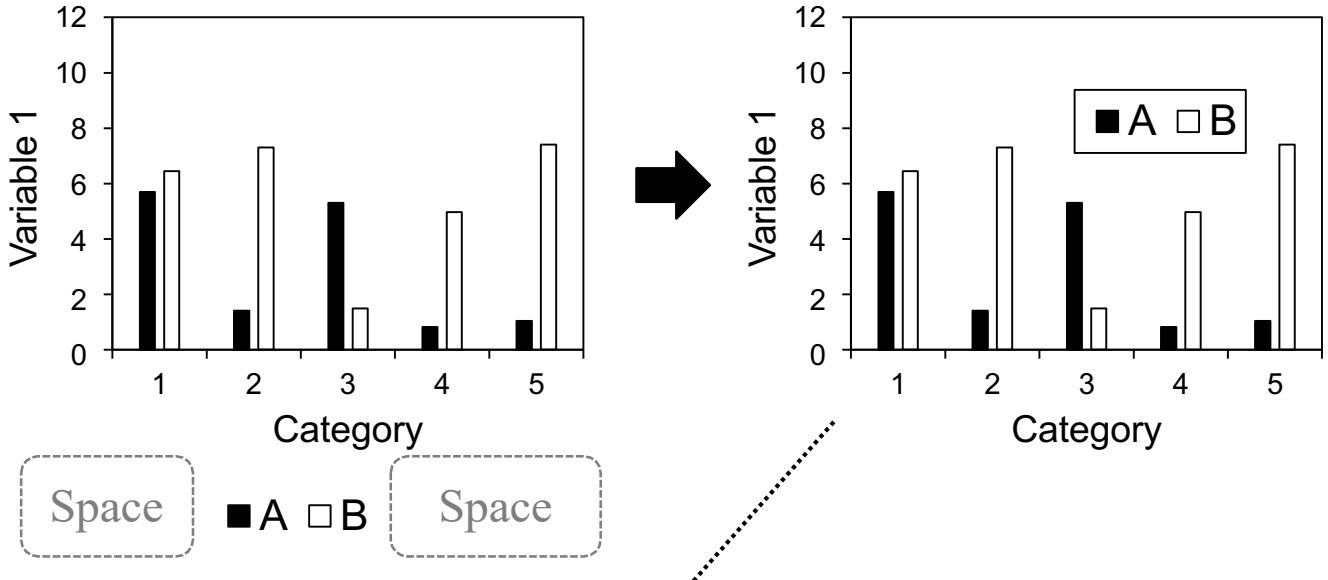
- Adjusting shapes and sizes of panels.



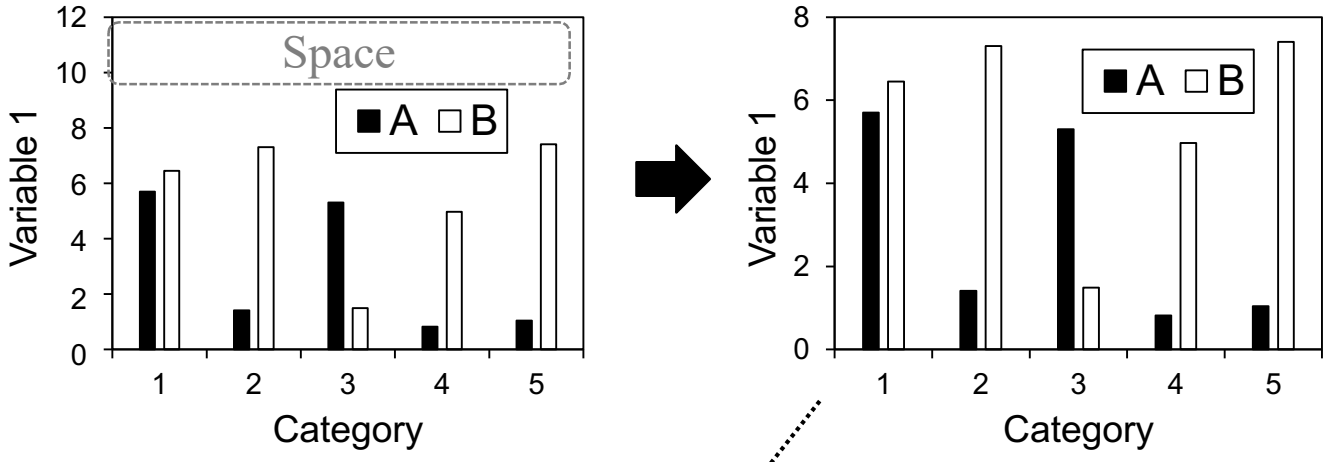
Note: Items in red are required. Revisions will be requested as necessary.

5. Reducing unnecessary space

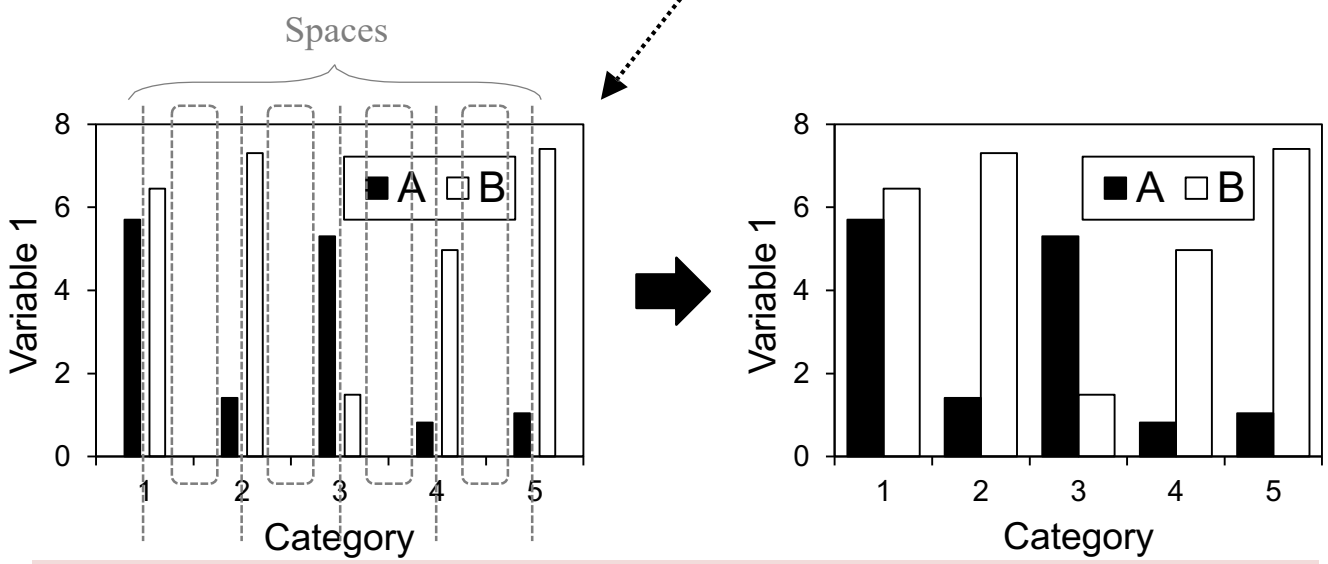
- Adjusting the position of the legend.



- Adjusting the range of the axis.



- Adjusting the size of objects.



Note: Items in red are required. Revisions will be requested as necessary.

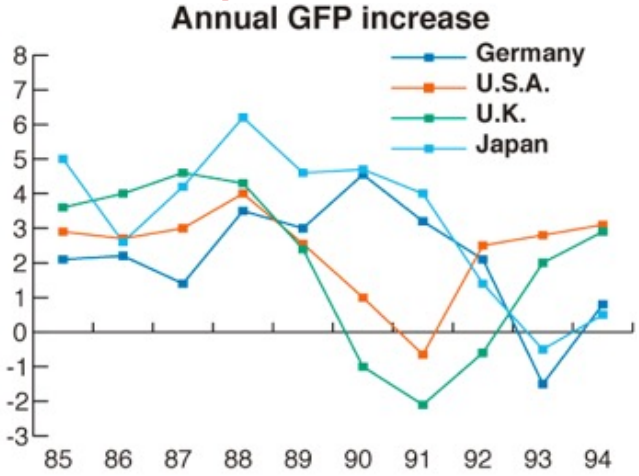
6. Notes for color illustrations

Color Universal Designs (friendliness to colorblind people)

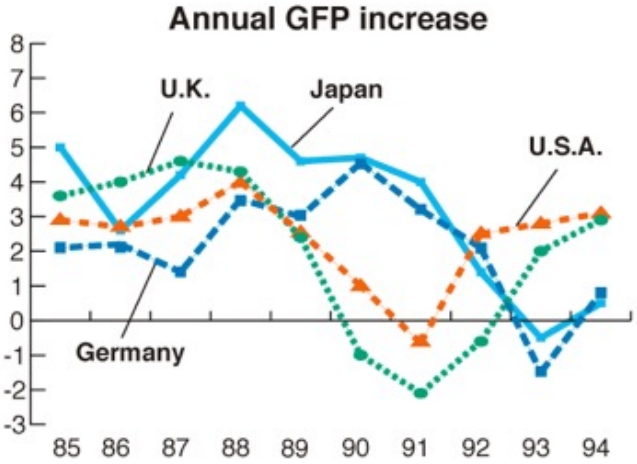
- Colorblind people can recognize a wide range of colors, but certain ranges of colors are hard to distinguish. When preparing your figures, please consider to make the figures distinguishable for colorblind people. For more details of color universal design, please refer to the color universal design (CUD) website. (https://jfly.uni-koeln.de/color/)
- Using symbols, line types, patterns and shape and choosing colors that easily distinguishable are recommended.

Example 1. Line drawings

Bad example

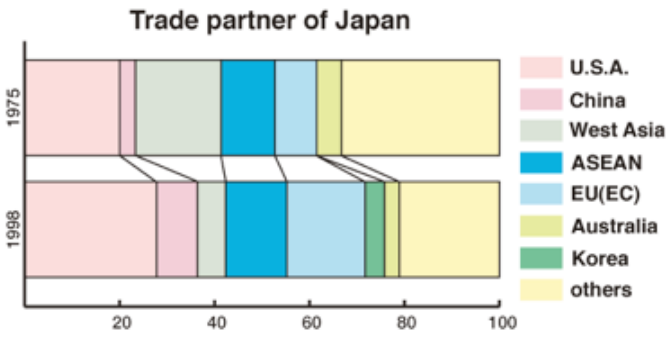


Good example

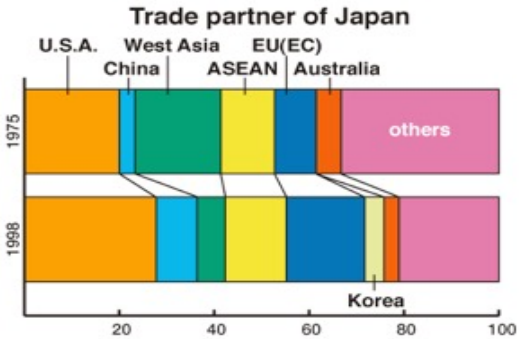


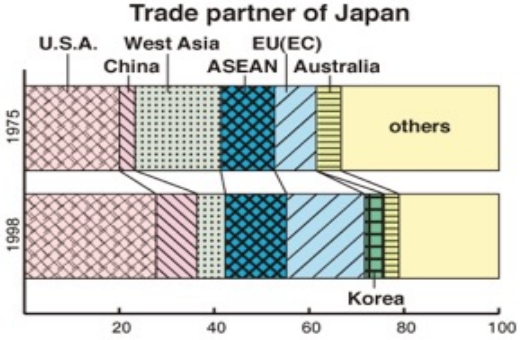
Example 2. Graphs

Bad example



Good example





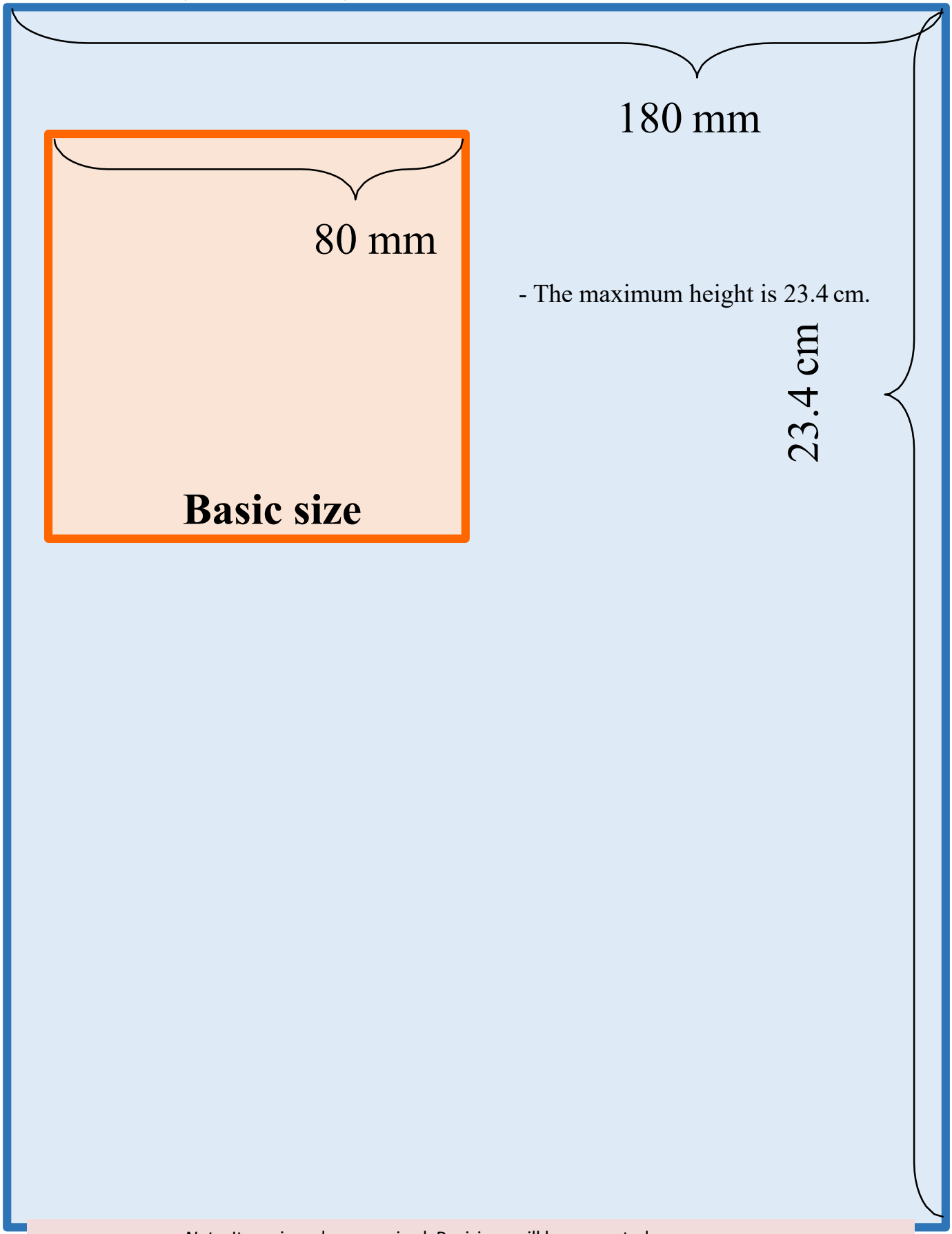
Color Universal Design (CUD) Masataka Okabe and Kei Ito. https://jfly.uni-koeln.de/color/

Note: Items in red are required. Revisions will be requested as necessary.

7. Guides for making files

(i) Figure size

- Please make Figures in the range 80–180 mm wide.



Note: Items in red are required. Revisions will be requested as necessary.

7. Guides for making files

(ii) Saving figures

- Save figures in separate files
- The file name should include the figure number

FIGURE 1

Figure_1.tiff

FIGURE 2

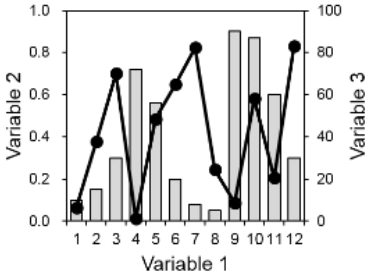


Figure_2.eps

FIGURE 3

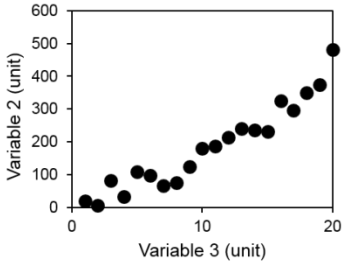


Figure_3.eps

- Save figures composed of multiple panels as one file. Do not separate by panel.
- Make each file size less than 10 MB.

FIGURE 4

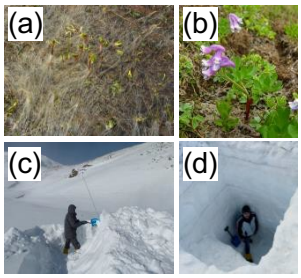


Figure_4.tiff

(iii) Preferred File format

- EPS or PDF (for line art) and TIFF (for image). For details, see the following instructions.
  Guidelines for the Preparation of Figures (Wiley)
  http://media.wiley.com/assets/7323/92/electronic_artwork_guidelines.pdf
- EPS or PDF (vector illustration) is recommended for a figure constructed of dots, lines, polygons, and/texts.

Vector format (EPS or PDF file)

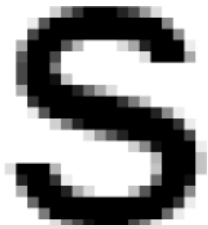
Eco Res

Vector illustration is not pixelated

Zooming...

Raster format (TIFF file)

Eco Res



Raster illustration is pixelated

Note: Items in red are required. Revisions will be requested as necessary.

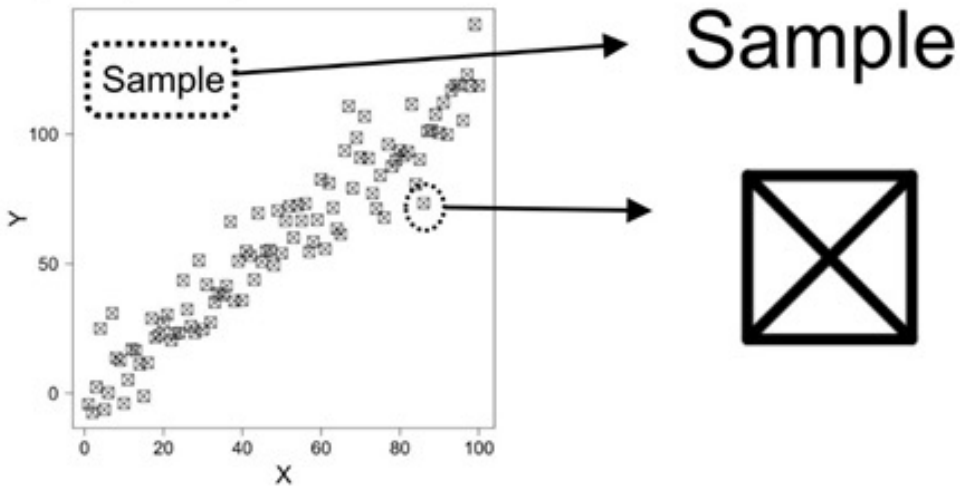
7. Guides for making files

(iv) Resolution

- For TIFF files, figures should be created in good picture quality and sufficient resolution (≥ 300 dpi)

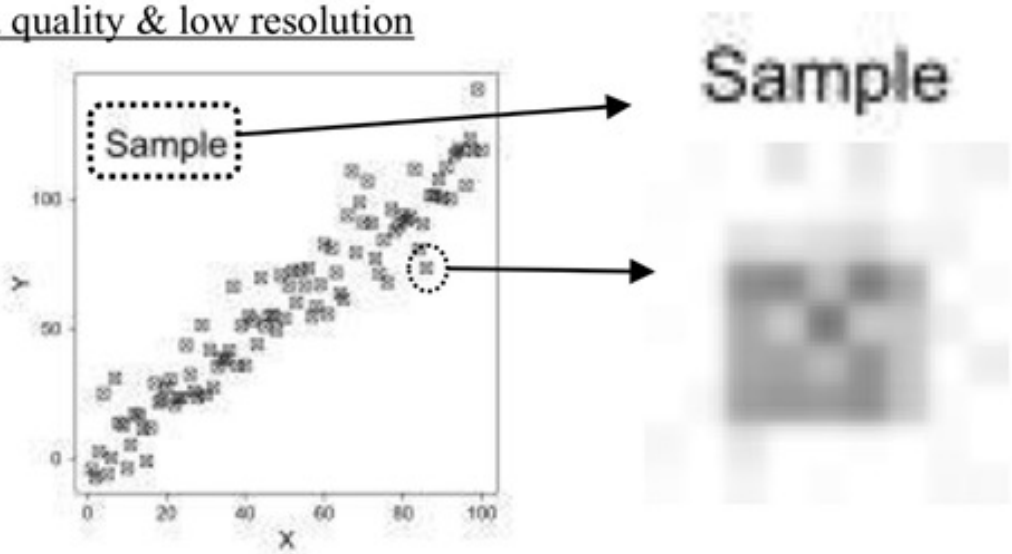
Good Example!

Good quality & high resolution



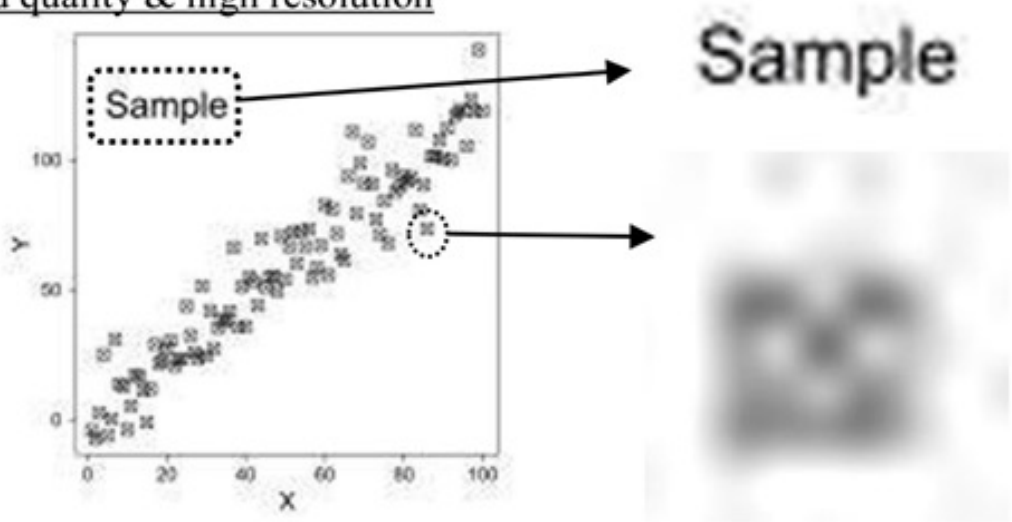
Bad Example

Bad quality & low resolution



Bad Example

Bad quality & high resolution



Note: Items in red are required. Revisions will be requested as necessary.

8. Guides for tables

- Tables should be provided as editable format in the main text not pasted as images.
- Do not use vertical lines and color
- Use the same font type as in the main text.
- Use normal font style, instead of bold/italic for the title and header of the table
- Show numerical values with the same number of digits after the decimal point within a column.
- Align values within a column (see below).
- Basic typographical rules are the same as those for figures.

TABLE # Topography and forest structures in the three topographic positions

Topographic position	*Elevation* [m] *Mean*	*Min.–Max.*	*Stem density [stems ha^{-1}] Mean*	*S.D.*	*Number of canopy gaps*
Ridge	466	450–481	1793.0254	482	12
Slope	450	416–478	1354.3641	589.4	15
Valley	438	413–461	655.26358	381.8	6
Total	452	413–481	1346.5975	652	33

TABLE # Topography and forest structures in the three topographic positions

Topographic position	Elevation (m) Mean	Min.–Max.	Stem density (stems/ha) Mean	*SD*	Number of canopy gaps
Ridge	466	450–481	1793	482.0	12
Slope	450	416–478	1354	589.4	15
Valley	438	413–461	655	381.8	6
Total	452	413–481	1347	652.0	33

- Align columns as follows

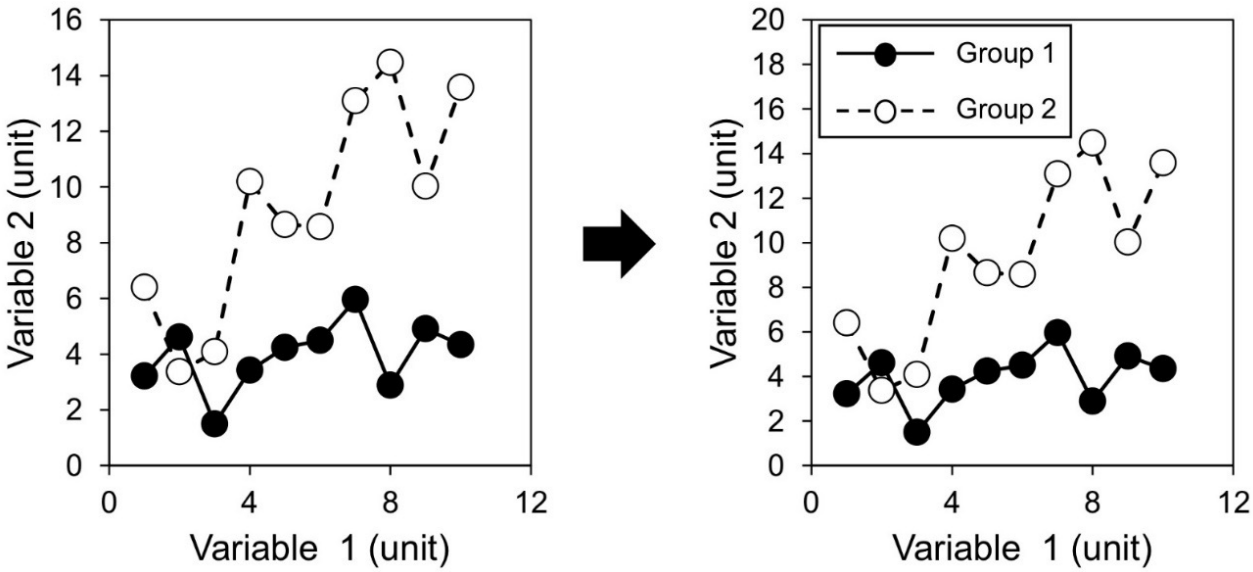
Characters	Integers	Numerical values	Values with mathematical signs
Value 1	Value 2	Value 3	Value 4
ABC	1	12.56	5.1 ± 7.3
DE	51	3.00	7.8 ± 5.6
FGHI	1	112.60	10.5 ± 15.2
Align left	Align right	Align at the decimal points	Align at the mathematical signs

Note: Items in red are required. Revisions will be requested as necessary.

9. Legends/captions

- Figures and tables should be **self-explanatory**, i.e. their contents should be understandable without reference to the main text.

- Provide graph legends as necessary



- Explain the parts of a figure in its caption.

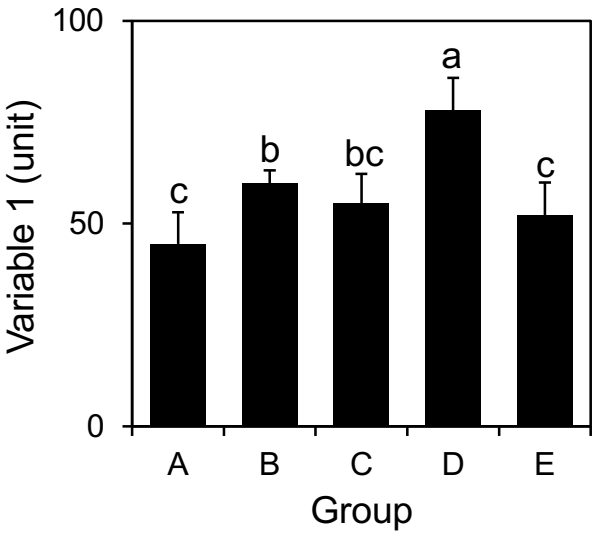


FIGURE # Differences in Variable 1 between the groups

FIGURE # Differences in the mean values of Variable 1 between the groups. The error-bars indicate standard deviation. Different lowercase letters represent statistically significant differences ($p < 0.05$; Tukey's HSD)

Note: Items in red are required. Revisions will be requested as necessary.

9. Legends/captions

- Abbreviations/acronyms should be defined in each figure/table.

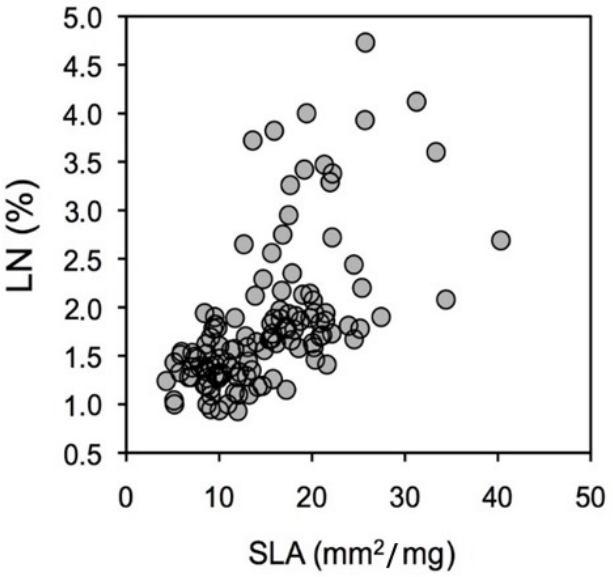


FIGURE # The relationship between SLA and LN ($r = 0.59$, $p < 0.001$)

FIGURE # The relationship between specific leaf area (SLA) and leaf nitrogen content LN ($r = 0.59$, $p < 0.001$)

- Abbreviations can be used without the definitions for common statistical measures/methods as follows:

Statistical measures	Abbreviation/symbol
Sample size	*n*
Probability value	*p*
Confidence interval	CI
Student's *t*	*t*
F ratio	*F*
Chi-square	X^2
Degree of freedom	df
Correlation coefficient	*r*
Coefficient of determination	R^2
Standard deviation	SD
Standard error	SE
Analysis of variance	ANOVA
Analysis of covariance	ANCOVA

Note: Items in red are required. Revisions will be requested as necessary.

9. Legends/captions

- Do not abbreviate genus names at the first mention in each figure/table.

TABLE # Species abundance of lianas in the study plot (10 ha)

Species	Number of stems
M. umbellate	301
A. rufa	201
P. viburnoides	89
A. affine	67
T. gracilipes	48
M. macrocarpa	25
F. thunbergii	24
M. parviflora	17

TABLE # Species abundance of lianas in the study plot (10 ha)

Species	Number of stems
Morinda umbellata	301
Actinidia rufa	201
Pileostegia viburnoides	89
Anodendron affine	67
Trachelospermum gracilipes	48
Mucuna macrocarpa	25
Ficus thunbergii	24
Mussaenda parviflora	17

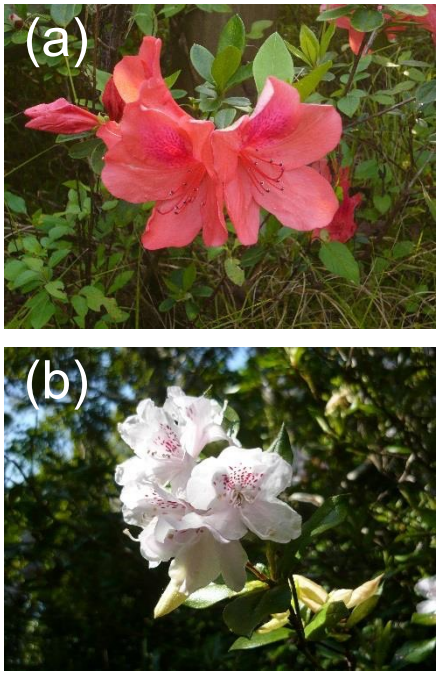


FIGURE # Flower of *R. scabrum* (a) and *R. tashiroi* (b)

FIGURE # Flower of *Rhododendron scabrum* (a) and *R. tashiroi* (b)

Note: Items in red are required. Revisions will be requested as necessary.