

Some examples of common problems in scientific manuscripts:

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1. Choosing the right journal

The genetic variability of four natural populations of *Larix gmelinii* (Rupr.) Rupr. from East Siberia was determined and compared by RAPD analysis. Comparison of the RAPD profiles provided an estimation of variability in 193 RAPD fragments. More than 89% of these fragments were found to be polymorphic. Two populations (FLU, near a fluorite quarry, and CHIT, 50 km distant from FLU) are from a region potentially affected (in a greater or lesser degree) by fluoride pollution, and two (PNR and NMK from Yakutia) are located in a region free of fluoride pollution. The FLU and CHIT populations are characterized by lower parameters of genetic variability (those for PNR and NMK populations are in parenthesis): the percentage of polymorphic loci (P_{95}) is 46 and 49% (60 and 64%), the average number of alleles per locus (A) is 1.62 and 1.65 (1.67 and 1.69), the expected heterozygosity (He) is 0.15 and 0.17 (0.20 and 0.23). The genetic diversity of the FLU, fluoride-tolerant population was the lowest, but only slightly lower than that of the CHIT, fluoride non-tolerant population. Although this study demonstrates the absence of fundamental alterations of genetic structure within the populations of *L. gmelinii* growing on soil with a high natural content of fluorides, it is presumed that the reduction of genetic diversity was the genetic response of the FLU population to such an environmental stress as a constantly high concentration of fluorides within the soil.

- This is the Abstract of a manuscript submitted to *Forest Ecology and Management*. It was rejected because the Editor judged that it had little to do with forest ecology or with forest management. In fact, the word ‘forest’ appeared only once in the manuscript. The manuscript should have been sent to a journal specializing in genetics. Before preparing a paper for publication, choose the journal very carefully.

2. Get the title right, and short and simple

Example 1

Forest grazing facilitates conifer regeneration after logging in mixed conifer forests with Yushania microphylla bamboo understory in Bhutan

- Reviewer considered title too long and complex – shorten to:

Forest grazing facilitates tree regeneration in conifer forests with bamboo understory

Example 2

Trees, ectomycorrhizal dependence and regeneration strategies in rubber agroforests and other forest-derived vegetation in Jambi (Sumatra, Indonesia)

- Reviewer's comments:
This is a well written paper which falls within the scope of Forest Ecology and Management although I don't really think that it tells us much that we did not know already. My main recommendation is removal of all mention of mycorrhizas as it adds nothing to the paper - we know that Dipterocarpaceae and Fagaceae are ectomycorrhizal and they are more common in undisturbed forest - I would remove all mention of mycorrhizas. Title therefore changes to:

Regeneration strategies in rubber agroforests and other forests in Jambi (Sumatra, Indonesia)

3. Rationale for a study

Example 1

'An understanding of the soil nutrients such as soil organic matter, total available nitrogen and the C: N ratio are very important for proper management of a wetland dominated system.'

- English – 'the', and 'understanding . . . are'
- More importantly – why is this understanding 'very important'?

Example 2

Even though some work has been done in the *L. chinensis* reserve. However, to our knowledge no studies had investigated the age size structure of *L. chinensis* forest along an altitudinal gradient in this zone.

- Just because it has not been done before is no justification for doing it now. There are thousands of forests on which few measurements have been made. Why is this study important? What is the hypothesis, and what do you hope to get from it?

4. Vague Conclusions

Example 1

upper layer (0-5 cm), and seed density declined by 71.10% in lower layer (5-10 cm). There was a tendency for the soil seed bank to decrease in density with increasing elevation in both shady slope and sunny slope, although this pattern is complicated by the occurrence of different plant communities and species at different altitudes. Sorenson similarity index between soil seed bank and vegetation of the seven habitats was very low, and *Picea crassifolia* was absent in the soil seed bank despite being prominent component of the surface vegetation at woodlands, thus *Picea crassifolia* has no persistent seed bank. It will be important to maintain the existing vegetation in the future management.

- This study of soil seed banks in forests is of very local or regional interest. It has little interest for an international audience.
- Avoid gratuitous statements such as the last sentence: ‘It will be important to maintain the existing vegetation in the future management’. Why is it important to maintain the existing vegetation, and how are we going to apply the results of this study of seed banks to maintain it?

Example 2

The limited distribution of this *L. chinensis* forest, and the ‘rare’ status of the species make these kinds of studies very important to the successful management and preservation of this endemic species of the Taibai Natural Reserve.

- Why is it very important? Just because you have done the study does not mean that it is very important. Again, how are these type of studies going to be used in land management and preservation? How are they going to be applied, and what will be the outcomes?

5. Problems with Tables

Example 1

Table 2. Colour codes and notations of the soil layers

| Habitat | Depth (cm) | Colour codes | Colour notation |
|-----------|------------|--------------|--|
| Woodland | 0-5 | 10YR4/2 | Dark grayish brown |
| | 5-10 | 2.5Y5/3 | Light olive brown |
| | 10-15 | 2.5Y6/3 | Light yellowish brown |
| | 15-20 | 2.5Y6/4 | Light yellowish brown |
| | 20-30 | 2.5Y6.5/3 | Light yellowish brown -Light olive brown |
| | 30-40 | 2.5Y5/3 | Light olive brown |
| | 40-50 | 2.5Y5/3 | Light olive brown |
| | 50-60 | 2.5Y6/3 | Light yellowish brown |
| | 60-70 | 2.5Y5/4 | Light olive brown |
| | 70-80 | 2.5Y6.5/3 | Light yellowish brown -Light olive brown |
| | 80-90 | 2.5Y6.5/3 | Light yellowish brown -Light olive brown |
| | 90-100 | 2.5Y5/3 | Light olive brown |
| Wetland | 0-5 | 2.5Y4/2 | Dark grayish brown |
| | 5-10 | 2.5Y5.5/2 | Grayish brown -Dark grayish brown |
| | 10-15 | 2.5Y5/2 | Grayish brown |
| | 15-20 | 2.5Y4/1.5 | Dark gray -Dark grayish brown |
| | 20-30 | 2.5Y4/2.5 | Dark grayish brown -Olive brown |
| | 30-40 | 2.5Y4/2.5 | Dark grayish brown -Olive brown |
| | 40-50 | 2.5Y4/2 | Dark grayish brown |
| | 50-60 | 2.5Y4/2 | Dark grayish brown |
| | 60-70 | 2.5Y4/2 | Dark grayish brown |
| | 70-80 | 2.5Y4/2 | Dark grayish brown |
| Grassland | 80-90 | 2.5Y4/2 | Dark grayish brown |
| | 90-100 | 2.5Y4/2 | Dark grayish brown |
| Grassland | 0-5 | 2.5Y4/2 | Dark grayish brown |
| | 5-10 | 5Y5/2 | Olive gray |

| | | |
|--------|---------|------------------------------|
| 10-15 | 5Y6/2 | Light olive gray |
| 15-20 | 5Y6/2 | Light olive gray |
| 20-30 | 5Y6/2 | Light olive gray |
| 30-40 | 5Y6.5/2 | Light olive gray -Olive gray |
| 40-50 | 5Y6/2 | Pale olive |
| 50-60 | 5Y6/2 | Pale olive |
| 60-70 | 5Y6/2 | Light olive gray -Pale olive |
| 70-80 | 5Y6/2 | Light olive gray -Pale olive |
| 80-90 | 5Y6/2 | Pale olive |
| 90-100 | 5Y6/2 | Pale olive |

- This Table is not necessary. It can all be said in the text: ‘The surface soils were dark grayish brown, grading to light olive brown (woodland), light olive brown (wetland), and pale olive (grassland) at 100 cm. There is little to no value in describing colour of soil at 10 cm intervals.
- But what is the point anyway? Is the colour of the soil important? Does the reader in (say) Australia really need to know the colours of these soils in China?

Problems with Tables

Example 2

Table 3. Soil texture along the depth profile in KNP

| Habitat | Depth | Clay (%) | Silt (%) | Sand (%) |
|-----------|--------|----------|----------|----------|
| Woodland | 0-5 | 43.0 | 53.0 | 4.0 |
| | 5-10 | 61.0 | 29.0 | 10.0 |
| | 10-15 | 71.0 | 22.0 | 7.0 |
| | 15-20 | 71.0 | 22.0 | 7.0 |
| | 30-40 | 65.0 | 26.0 | 9.0 |
| | 50-60 | 66.0 | 25.0 | 9.0 |
| | 70-80 | 66.0 | 25.0 | 9.0 |
| | 90-100 | 62.0 | 29.0 | 9.0 |
| Wetland | 0-5 | 58.0 | 34.0 | 8.0 |
| | 5-10 | 58.0 | 31.0 | 11.0 |
| | 10-15 | 54.0 | 32.0 | 14.0 |
| | 15-20 | 45.0 | 35.0 | 20.0 |
| | 30-40 | 40.0 | 39.0 | 21.0 |
| | 50-60 | 47.0 | 34.0 | 19.0 |
| | 70-80 | 54.0 | 30.0 | 16.0 |
| | 90-100 | 54.0 | 33.0 | 13.0 |
| Grassland | 0-5 | 80.0 | 20.0 | 0.0 |
| | 5-10 | 67.0 | 31.0 | 2.0 |
| | 10-15 | 47.0 | 30.0 | 23.0 |
| | 15-20 | 57.0 | 28.0 | 15.0 |
| | 30-40 | 61.0 | 28.0 | 11.0 |
| | 50-60 | 76.0 | 23.0 | 1.0 |
| | 70-80 | 48.0 | 33.0 | 19.0 |
| | 90-100 | 58.0 | 31.0 | 11.0 |

- why include ‘.0’? It adds nothing.
- And look at right-hand column, 3rd last entry – why this sudden drop in sand content? Makes the reviewer very suspicious.

Problems with Tables

Example 3

Table 4. Habitat and year wise variation in C: N, C: P, C: S and N: P ratio

| Habitat | Layer | C: N | | | C: P | | | C: S | | | N: P | | |
|-----------|--------|-------|-------|-------|---------|---------|---------|----------|---------|---------|---------|--------|---------|
| | | 2003 | 2004 | 2005 | 2003 | 2004 | 2005 | 2003 | 2004 | 2005 | 2003 | 2004 | 2005 |
| Woodland | Litter | 28.38 | 16.46 | 25.39 | 809.99 | 1731.06 | 2315.63 | 403.62 | 765.99 | 1462.36 | 28.54 | 105.18 | 91.20 |
| | | 0 | 10.16 | 6.69 | 13.48 | 1139.26 | 1302.12 | 4090.33 | 307.09 | 389.68 | 1491.93 | 112.18 | 194.57 |
| | | 25 | 1.40 | 0.87 | 1.53 | 255.09 | 420.14 | 1225.21 | 38.77 | 43.76 | 704.22 | 182.63 | 481.32 |
| | | 50 | 1.08 | 0.48 | 0.87 | 286.52 | 232.94 | 733.49 | 36.55 | 23.24 | 713.48 | 266.16 | 482.10 |
| | | 75 | 1.00 | 0.68 | 0.43 | 267.29 | 308.34 | 375.61 | 28.06 | 28.96 | 289.27 | 268.11 | 454.71 |
| Wetland | Litter | 100 | 1.21 | 0.50 | 0.72 | 479.20 | 358.25 | 604.82 | 30.96 | 23.81 | 224.68 | 395.95 | 719.89 |
| | | 32.19 | 19.65 | 22.35 | 2214.09 | 1874.23 | 2404.12 | 4012.44 | 1045.70 | 506.56 | 68.79 | 95.39 | 107.56 |
| | | 0 | 14.69 | 8.47 | 6.59 | 3978.20 | 2211.44 | 2809.48 | 1198.66 | 633.07 | 911.40 | 270.87 | 261.22 |
| | | 25 | 2.59 | 2.06 | 2.52 | 1220.43 | 615.67 | 1003.27 | 515.45 | 636.71 | 1417.22 | 471.49 | 299.57 |
| | | 50 | 2.01 | 1.71 | 1.30 | 1148.13 | 784.35 | 1190.52 | 303.14 | 520.66 | 576.57 | 571.29 | 458.41 |
| Grassland | Litter | 75 | 1.96 | 1.67 | 1.15 | 1018.65 | 982.64 | 1848.85 | 234.20 | 360.32 | 420.19 | 518.87 | 586.89 |
| | | 100 | 1.73 | 1.76 | 0.89 | 794.97 | 966.28 | 1852.74 | 151.76 | 354.12 | 318.74 | 459.28 | 550.34 |
| | | 38.46 | 13.09 | 22.58 | 2911.64 | 1796.34 | 2679.57 | 18719.59 | 468.25 | 7396.69 | 75.70 | 137.26 | 118.69 |
| | | 0 | 7.68 | 6.08 | 7.16 | 2024.65 | 1267.28 | 3652.67 | 1759.49 | 1328.00 | 1715.80 | 263.54 | 208.48 |
| | | 25 | 3.01 | 1.05 | 1.44 | 1232.19 | 783.45 | 1506.97 | 516.96 | 472.00 | 668.80 | 409.07 | 745.17 |
| | | 50 | 1.14 | 0.78 | 1.31 | 726.96 | 694.30 | 1256.30 | 735.46 | 78.22 | 60.65 | 638.52 | 889.94 |
| | | 75 | 1.07 | 0.72 | 0.88 | 628.09 | 797.55 | 1567.24 | 151.64 | 39.77 | 25.92 | 588.98 | 1106.52 |
| | | 100 | 0.90 | 0.77 | 0.72 | 508.90 | 381.24 | 717.78 | 46.61 | 20.13 | 14.31 | 564.63 | 498.31 |
| | | | | | | | | | | | | | 996.65 |

- Giving all of these ratios to two significant figures after the decimal point is simply not justified by the accuracy of measurement.
- The table becomes hopelessly cluttered.

6. Figures of poor quality or of little relevance

Example 1

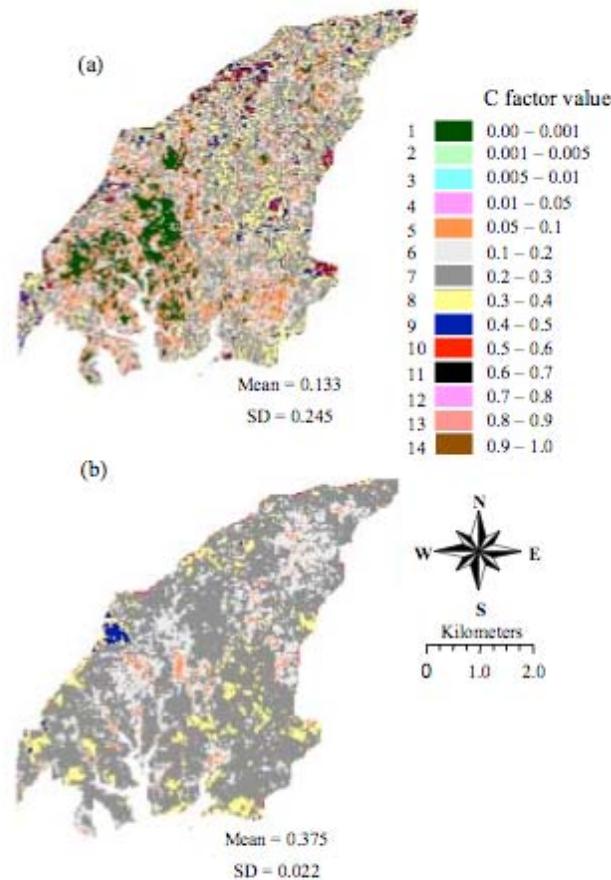


Fig. 5. C factor map derived using (a) SMA and (b) NDVI method.

- Does this figure really tell us much? Can we distinguish sufficiently between the 14 colours? This Editor cannot.
- Table and figure captions must stand alone. What is a ‘C factor’, what is ‘SMA’ and ‘NDVI’?

6. Figures of poor quality or of little relevance

Example 2



Figure 7 Natural regeneration in Mongolian pine plantations stands (No seedlings were more than one year old. The roots were less than 5 cm)

Figure is of very poor quality, and impossibly low resolution. And what does it tell us anyway?

7. A note on captions for Tables and Figures

Tables and Figures must stand alone. Ensure that captions are fully descriptive. Do not use acronyms unless they are in common usage. If you have used acronyms inside the table or figure, then the caption must include an explanation of the acronyms.

8. An example of ‘soft’ science

There are many cases where the science is simply not up to the standard for an international journal. Here is an example:

Abstract

The evergreen perennial ferns *Dicranopteris linearis* (Burm.fil.) Underw. and *Gleichenia japonica* Spr. (Gleicheniaceae) form dominant communities on various types of naturally and artificially disturbed sites. In the present study, we examined the effects of leachate from various organs of the ferns (donor plants) on the germination and growth of lettuce (receptor plants) under laboratory conditions to test the allelopathic potential of the extracts. Several types of leachate from donor materials (including fresh and senescent leaf lobes) significantly inhibited the radicle and hypocotyl growth of lettuce. No donor materials promoted lettuce growth. Because solution and experimental conditions such as pH, electrical conductivity, and incubation temperature were adequate to ensure lettuce growth, it is reasonable to conclude that the observed inhibition of lettuce growth was mainly caused by allelopathic chemicals leaching from the ferns. These results support the hypothesis that *D. linearis* and *G. japonica* dominance in the field results partly from their allelopathic effects on competing vegetation.

- Be very careful of allelopathy. It is very easy to find plant extracts that inhibit growth. The more important thing is to identify the active allelochemical, and to demonstrate that it has specific results.
- What is the relevance of this paper to management?
- What is the interest of this paper to an international audience?

9. Problems with English

‘Another problem related to the effects of environmental factors on the survival and growth of ECM strains in the Mongolian pine plantations is the distribution of tree root systems, because the distribution of ECM is corresponded with the roots directly, especially the fine roots. Therefore, we observed the root distribution of Mongolian pine in the present study. Results indicated that about 80% of the roots distributed within 20-40 cm soil depth, and more than 85% distributed within 0-40. Combined the observations of soil water content (soil water potential) in the plantation site, we observed that the water conditions within 20-40 cm layer were substantially better than in other layer. Additionally the temperature in month of July (the highest mean temperature in a year) within 20-40 cm layer just fell the optimum range for the growth of the major ECM strains. As for the soil pH it was not the limiting factor within 20-40 cm layer as well. This result suggested that the soil water condition and temperature in the roots distributing layer were suitable for the growth of the tested ECM strains in the plantation.’

Unfortunately, this is very near to being incomprehensible. Perhaps the following:

‘The distribution of ECM is directly related to the distribution of fine roots in Mongolian pine. About 80% of the roots are within the 20-40 cm layer of soil, where water content is greatest. Thus neither water nor temperature limited the growth of ECM in July, the hottest month of the year.’

However, no reviewer is going to do what I have done above, and so the paper will be summarily rejected without going out for review.

10. In general

- Before starting to prepare your manuscript, choose very carefully the journal that is appropriate.
 - Many studies in forest ecology are of a local or regional nature. There is little point in sending such a paper to an international journal such as *Forest Ecology and Management*
- Having chosen a journal, READ THE GUIDE TO AUTHORS AND FOLLOW THE GUIDE ABSOLUTELY. Get a copy of the journal, and follow the lay-out, including heading structure, format of the tables, and referencing style. It is the author's responsibility to submit a manuscript in the required format.
- Introduction – state clearly why the study was done. Conclude the Introduction with a clear and simple hypothesis to be tested.
- Discussion – the Discussion is a discussion of your results in the context of the world literature. Do not have a Discussion that is largely a repetition of the Results. Write positively – too often, we come across statements such as ‘These results suggest that the trees might be under water stress to the extent that mortality might be possible’. That statement is vague enough to mean nothing! Avoid acronyms – for example, you might have set up an experiment with a eucalypt forest (EF) and a pine forest (PF), on two aspects North (N) and south (S), in two localities, say Victoria (V) and Tasmania (T). You then have the following: VEFS, VEFN, TEFS, TEFN, VPFS, VPFN, TPFS and TPFN. This leads to sentences like ‘The concentration of phosphorus in top-soil was greatest in VEFS, intermediate in VEFN, VPFN and TPFS, and least in the other forests’. This might make sense to the author, but it is a nightmare for reviewers and readers. You should not expect your readers to remember acronyms.
- References – take great care with referencing. It is particularly irritating for reviewers to find mistakes, particularly in one of their own references. Try not to use references that are difficult for the international reader to access. Do not use internal reports or references in obscure journals.
- Language editing – again, it is your responsibility to produce a manuscript in the correct format for the journal, in the correct language used by that journal. If you choose to publish in an English language journal such as *Forest Ecology and Management*, you must present your manuscript in correct English. It is not up to the Editors, the reviewers or the editorial office to correct your manuscript. There are language editing services available to help you.

10. Reviewing and rejection

Forest Ecology and Management is an international journal of high standing. We receive a large number of manuscripts each year. Many of these manuscripts are rejected without going out to reviewers. We do not want to waste the time of reviewers, and so we reject manuscripts for a number of reasons – for example, the topic is not appropriate for the journal, the manuscript is not in the right format or the English is poor, the topic is of local or national relevance rather than international.