

## Author Guidelines

*New Phytologist* is an **online-only publication**: read the Editorial by Alexander & Slater to find out why the journal moved to online-only in 2012 after 110 years of print (doi: 10.1111/j.1469-8137.2011.03866.x).

A Chinese-language version of the Author Guidelines is available here: [nph-authorguidelines\\_chinese.pdf](http://nph-authorguidelines_chinese.pdf).

[www.newphytologist.com](http://www.newphytologist.com) – for all the latest information

## Summary

- *New Phytologist* is an international electronic journal published 16 times a year, and is owned by a non-profit-making charitable trust dedicated to the promotion of plant science.
- Our regular submissions address fundamental questions across the spectrum of plant science. Short Letters, Viewpoint pieces and other submissions to the Forum section, as well as Research reviews, Rapid reports and both Modelling/Theory and Methods papers, are encouraged.
- We are committed to rapid processing – from online submission using <http://mc.manuscriptcentral.com/newphytologist/>, enabling the quickest possible peer review, through to the use of e-proofs and then publication 'as-ready' via Early View.
- There are no page or colour charges and a PDF version will be provided to corresponding authors of each article.
- Authors may opt to make their article 'open access' by choosing Wiley's OnlineOpen service.
- If you have any queries do not hesitate to get in touch with Central Office or, if it is more convenient, our US Office.

## Contacts

[nph-centraloffice@lancaster.ac.uk](mailto:nph-centraloffice@lancaster.ac.uk) – for all general enquiries

### Central Office

[nph-managinged@lancaster.ac.uk](mailto:nph-managinged@lancaster.ac.uk)

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## Aims and scope

*New Phytologist* publishes excellent, novel, rigorous and timely research and scholarship in plant science and its applications. Falling within four sections – Physiology & Development, Environment, Interaction and Evolution – articles cover topics that range from intracellular processes through to global environmental change. Cross-disciplinary approaches are particularly encouraged but for guidance the journal is organized as below. We recognize that techniques from molecular and cell biology, and functional genomics through to modelling and system-based approaches will be applied across the whole spectrum of plant science:

- **Physiology & Development:** intra/inter-cellular signalling, long-distance signalling, physiology, development, eco-devo – phenotypic plasticity, transport, biochemistry.
- **Environment:** global change and Earth system functioning, environmental stress, ecophysiology, plant–soil interactions, heavy metals.
- **Interaction:** multitrophic systems, mycorrhizas and pathogens, fungal genomics, nitrogen-fixing symbioses.
- **Evolution:** molecular evolution, population or quantitative genetics, mating systems, phylogenetics, speciation, plant–enemy coevolution, evo–devo.

The following policies on scope apply:

- **Fungal papers:** *New Phytologist* accepts papers that deal with the interactions between fungi and living plants (essentially mycorrhizal fungi, plant pathogens, endophytes, rhizosphere/phylosphere organisms and lichens) or with the biology/molecular biology/genetics/evolution of those fungi relevant to their interactions with plants. Papers on general mycological topics (e.g. databasing, bioinformatics, fungal evolution), which are of particular relevance to those working with plant-associated fungi are also accepted. Whilst we recognise that the great majority of fungi can be said to interact with plants through their role in the breakdown of dead plant material and in nutrient cycling, papers on these topics do not fall within the journal's remit.
- **Plant-relevant soil processes:** *New Phytologist* considers studies in soil microbiology and biogeochemical cycling where these are explicitly linked to an aspect of plant performance or plant community processes.
- **Use of transgenic organisms:** *New Phytologist* expects transgenic studies to generate at least 10 independent lines for preliminary characterisation. From these lines, data from two or more independent lines that show a common and stable phenotype should be analysed and presented.

## Review procedure and editorial policy

*New Phytologist* is asked to consider an increasingly large number of submissions. To maximise the number published we ask Authors to write the most concise papers they can (see **word limit restrictions**). It is, however, not possible to keep pace with the number of submissions and consequently competition for space is high with a current acceptance rate < 20%.

All *New Phytologist* submissions should focus on **timely research that provides new insights into the broad principles of plant science**. The original research should address clear hypotheses or questions and offer new insights on topics of interest to a broad cross-section of our readers. Studies that report incremental advances or are narrow in scope are not appropriate. **Authors should include answers to the following questions** (max. 50 words per question) in a covering letter, to help the Editors decide whether to send the manuscript for peer review:

1. What hypotheses or questions does this work address?
2. How does this work advance our current understanding of plant science?
3. Why is this work important and timely?

**Presubmissions** If you are unsure whether your paper falls within the scope of *New Phytologist* you may submit a **presubmission enquiry**;

send the abstract of your paper, together with a covering letter that includes answers to the three questions above, to the Managing Editor ([np-managinged@lancaster.ac.uk](mailto:np-managinged@lancaster.ac.uk)).

**What happens during review?** All manuscripts are allocated to a relevant member of the Editorial board, who decides whether the paper should go forward to peer review. Those that do not will be returned at this stage; we make every effort to do this as quickly as possible (usually within 6 days) so that the authors can take their work forward without delay. Papers sent out for review will, typically, be assessed by two or three independent reviewers. Authors may nominate potential reviewers, but we do not guarantee that these individuals will be invited to review. These should not generally have been co-authors or collaborators within the past 3 years, nor should they have any other conflict of interest. If authors wish to request the exclusion of certain reviewers specific justification **must** be provided in the covering letter for the Editor's consideration.

**Decisions** Editors make a final decision, based on the reviewers' advice balanced with the editorial policy of the journal, to: **accept subject to revision**, advise **major revision** (where it is likely that substantial revisions will bring the paper up to *New Phytologist* standards), **reject with resubmission encouraged** (where further work is likely to bring the paper up to *New Phytologist* standards) or **reject** (where the work typically has technical problems and/or fails to meet our standards regarding novelty, insight and significance). Revised manuscripts must be received by the date stated by the Editor in the decision letter; if received after this date, the manuscript will be treated as a new submission. Revised manuscripts may be sent for further review, at the Editor's discretion. All **resubmitted manuscripts** will be treated as new submissions and **undergo the full review** process. *New Phytologist* is **committed to rapid publishing**. To this end, we strive to return the Editor's decision and reviewer comments within 28 days of submission, on average, and to publish papers within 2 months of the acceptance date.

Please note our **policy restricting the length of articles**. Regular research papers that exceed 6500 words (including Introduction, Materials and Methods, Results, Discussion and Acknowledgements) will be returned to authors without review.

## New sequence data

New sequence data **must** be deposited in the EMBL/GenBank/DDBJ Nucleotide Sequence Databases and the appropriate accession numbers included in the article. Authors will be asked to provide this information at submission and reminded once again about this requirement at acceptance stage. Authors including microarray data should comply with MIAME recommendations (for guidance see <http://fged.org/projects/miame/>).

## Authorship and publication policies

Authors are required to ensure that articles submitted to *New Phytologist* meet the ethical standards required of scholarly research. These ethical standards include, but are not limited to, the rights of any author to be associated with his or her own work; submitted papers should be the work of the submitting author(s) and authors should ensure that the work of others is properly cited and full credit is given where appropriate. Submitted articles should not be under review or previously published elsewhere. Submitting authors will be asked to confirm that all individuals entitled to authorship have been named and have approved the final version of the submitted manuscript during the submission process; email addresses should be provided for all authors, and all listed authors will be sent confirmation of the submission.

Any allegations of unethical or fraudulent publishing practices will be fully investigated by the journal.

Each article should include an Author Contributions section detailing the contribution of each author to the submitted manuscript including their input into the following aspects of the work: design of the research; performance of the research; data analysis, collection, or interpretation; and writing the manuscript. Please include this section after the Acknowledgements section. Please note that any requests to change the author list after submission need to be submitted to the editorial office in writing and the agreement of all co-authors will be sought.

*New Phytologist* is a member of [CrossCheck](#), and reserves the right to screen all submitted articles against the [CrossCheck](#) database, used to identify overlaps between submissions and previously published works.

## Data and materials policy

*New Phytologist* requires authors to ensure that data and materials integral to the paper are available to readers in a form which allows for verification and replication of the results in the paper. Where feasible, data should be included as part of the article or as supporting information, however, if this is not possible, we expect authors to make use of public data repositories and include the appropriate links and identifiers within the article. It is the strict requirement of the journal that authors will agree to make their data and materials available to readers upon reasonable request, and corresponding authors will be reminded of this at acceptance stage. Please note that this policy also applies to any custom software described in the paper.

## Article types

*New Phytologist* publishes several types of articles. Where appropriate, these may include supporting information which will be published in addition to the full text article.

**Original research articles** comprise the largest section of the journal and include **Full papers**, **Rapid reports** and **Methods**.

**Full papers** report complete studies that provide new and valuable insights into plant science; they should not exceed 6500 words (see Style notes) and those that do will be returned without review.

**Rapid reports** differ in that the nature of the findings makes priority publication of particular scientific importance, and your covering letter must state clearly why this is considered to be the case. They will be shorter than usual, *c.* 3000 words, with four figures and/or tables. Attention to both our style requirements and language must be excellent. If we decide that this route is appropriate, we would then give the paper priority in both peer review and subsequent publication.

**Modelling/Theory** and **Methods** papers should still typically focus, as with any other submission, on timely research that addresses fundamental questions in plant science. However, the novel or improved methodology/analytical approach will form an important component, and description and proper evaluation will be a significant proportion of the paper. Papers which only evaluate a new method/analytical approach or critically examine existing practice, will also be considered, where the conclusion is of wide interest to plant scientists.

*New Phytologist* also accepts articles that contain **comment** and **review**. Do refer to the journal for guidance on the types of format that are acceptable, recent issues can be viewed at [www.newphytologist.com](http://www.newphytologist.com).

Generally, **Letters** are our most free-ranging type of article. We encourage the exchange of ideas and open de-

bate, and welcome such contributions to the Forum. Up to 1500 words is usual, with 1–2 figures/tables as appropriate, but there are no specific restrictions.

**Viewpoints** provide a bridge between a research article and a review. They should be forward-looking and offer a novel view on a field of study. Viewpoints that put forward a new research agenda are particularly encouraged. Viewpoints should usually be in the region of 1500 words in length with a 200-word summary. We strongly encourage potential Viewpoint authors to submit a presubmission enquiry. In exceptional circumstances, Viewpoint submissions up to 6,500 words in length with up to six figures and 40 references will be considered. Please note that Forum articles are reviewed.

Short **Research reviews** should be in the range 3500–4000 words, with up to 40 references and 6 figures/tables. Following a short introduction putting the area into context, and providing a ‘way in’ for the nonspecialist, these will concentrate on the most recent developments in the field. We also commission content, such as **Commentaries**, **Meeting reports**, **Tansley reviews** and **Tansley insights**. Enquiries or suggestions about these or other types of article are always welcome.

### Early View

As soon as any *New Phytologist* paper is complete and final, it is published via Wiley’s *Early View* service. A unique DOI number (see [www.doi.org/faq.html](http://www.doi.org/faq.html) for information) allows the article to be cited at this point, although once the article is included in an issue, volume and page numbers can be used as usual. Please note that *Early View* articles are **complete and final**, therefore **no changes** can be made after online publication.

### OnlineOpen

OnlineOpen (open access publication) is available to authors who wish to make their article freely available on publication. With OnlineOpen, the author, the author’s funding agency, or the author’s institution pays a fee (US\$3000) to ensure that the article is made available to non-subscribers upon publication via Wiley Online Library, as well as deposited in the funding agency’s preferred archive. For the full list of terms and conditions, see [http://wileyonlinelibrary.com/onlineopen#OnlineOpen\\_Terms](http://wileyonlinelibrary.com/onlineopen#OnlineOpen_Terms).

Authors who wish to make their paper OnlineOpen will be required to complete the payment form available at: [https://authorservices.wiley.com/bauthor/onlineopen\\_order.asp](https://authorservices.wiley.com/bauthor/onlineopen_order.asp).

If you decide to select the OnlineOpen option, please contact the *New Phytologist* editorial office ([np-managinged@lancaster.ac.uk](mailto:np-managinged@lancaster.ac.uk)) to obtain a copy of the appropriate licence form. To preview the terms and conditions of open access agreements visit <http://www.wileyopenaccess.com/details/content/12f25db4c87/Copyright-License.html>.

If you select the OnlineOpen option and your research is funded by the Wellcome Trust or Research Councils UK (RCUK) you will be given the opportunity to publish your article under a CC-BY license supporting you in complying with Wellcome Trust and RCUK requirements. For more information on this policy and the Journal’s compliant self-archiving policy visit: <http://www.wiley.com/go/funderstatement> or contact the Managing Editor ([np-managinged@lancaster.ac.uk](mailto:np-managinged@lancaster.ac.uk)).

There is no requirement to inform Central Office that you intend to publish your paper OnlineOpen until after acceptance. All OnlineOpen articles are treated in the same way as any other article. They go through the journal’s standard peer-review process and will

be accepted or rejected based on their own merit.

### English-language editing service

Authors for whom English is a second language may choose to have their manuscript professionally edited before submission to improve the English. All services are paid for and arranged by the author, and use of a language-editing service does not guarantee acceptance or preference for publication.

### Submission procedure

- Please prepare your article according to the instructions outlined in the subsequent sections of this document. You may also find our [Submission guide for Authors](#) and [Supporting Information template](#) useful reference documents as you prepare your article for submission.
- Compile the electronic version of your manuscript and complete the submission checklist at the end of this document.
- Go to the *New Phytologist* ScholarOne Manuscripts site (<http://mc.manuscriptcentral.com/newphytologist/>) to make a submission. Please note that submission must be done from the *New Phytologist* ScholarOne Manuscripts account belonging to the Corresponding Author.
- Enter the Author Centre and click ‘submit a new manuscript’. Progress through the screens, inputting your manuscript information, Summary and covering letter. Input each author named on your manuscript; please check whether your co-authors already have a *New Phytologist* ScholarOne Manuscripts account as it is essential to use their registered email address to avoid creation of duplicate accounts. You are also welcome to nominate up to six potential reviewers. There are instructions to guide you all the way through, and you can break off at any point in the process and come back to it later. Everything is saved automatically whenever you click on ‘next’.
- The final stage is the upload of the manuscript:
  - Main document (text, tables and figure legends) in Microsoft Word or Rich Text Format.
  - Figures (separate figure files) preferably in EPS or TIFF formats.
  - Supporting Information to be published in addition to the full text article (see the Supporting Information section for further information).
- It is possible to upload other file types such as LaTeX files and QuickTime movies, but ScholarOne Manuscripts will not convert these. Journal staff and reviewers will only be able to view these files if they have the relevant software. For more information on file types see the ‘**Author File Upload Tips**’ provided by ScholarOne (<http://mchelp.manuscriptcentral.com/gethelpnow/guides.htm>).
- All main document and figure files uploaded will be combined into a single PDF and also into a tagged HTML proof for peer review. The original files that you upload will be saved and can be accessed by the journal office if necessary. Note: if the manuscript text and figures are submitted as PDF files the HTML tags will not work and figures will not be labelled.
- Note: authors submitting revised articles or resubmitted articles, should ensure that a version with tracked changes visible is submitted, accompanied by a ‘clean’ version where changes have been accepted.
- Complete the submission process by clicking ‘**Submit**’, after which you will receive an automatic Submission Confirmation email, which includes your manuscript number.

Any problems? If you encounter any technical difficulties, click on ‘Get Help Now’ when in ScholarOne Manuscripts or simply contact [np-centraloffice@lancaster.ac.uk](mailto:np-centraloffice@lancaster.ac.uk).

## Style notes for all submissions

- Text should be 1.5-line spaced with settings for letter (8.5 by 11 inch) or A4 (210 by 297 mm) paper with wide margins. Use a consistent font throughout, for example Times New Roman 12-point (symbol palette for additional characters). Lines and pages should be numbered (to aid review use continuous numbering for lines). Both American and British English are acceptable if used consistently.
- On the first page, include a concise and informative title (for research papers this should ideally state the key finding or frame a question), authors and addresses. Where authors have different addresses, use numbered superscripts to refer to each address provided. State the author for correspondence and include their telephone and email details. Note: in certain circumstances, *New Phytologist* permits the listing of multiple corresponding authors. Total word count for the main body of the text (Introduction, Materials and Methods, Results, Discussion, and Acknowledgements), word counts for each section plus the number of figures (indicating which figures should be published in colour), tables and supporting information must also be stated on the front page.
- The main body of the text for **Regular research papers should not exceed 6500 words**. Manuscripts over this limit will be returned without review. Please be as concise as possible consistent with an appropriate level of explanation for the science presented, with the Discussion in research papers not exceeding 30% of the total word count. Authors should also consider the use of online supporting information where appropriate.
- Arrange research papers under the headings Summary, Introduction, Materials and Methods, Results, Discussion, Acknowledgements, Author Contribution and References. In the case of Modelling/Theory papers, include a heading of Description in place of Materials and Methods, which should include a description of the model or theoretical framework.
- The Summary for research papers, which must be usable as a stand-alone document, must not exceed 200 words and should be organized using four bullet points to indicate (1) the research conducted, including the rationale, (2) methods, (3) key results, and (4) the main conclusion, including the key points of discussion. It should not contain citations of other papers. For reviews, keep to the word limit, but bullet points do not apply. A Summary is not required for most Forum submissions, only Viewpoints require a summary.
- Five to eight key words (in alphabetical order) must be given at the end of the Summary (research papers, reviews) or after the References (Forum submissions) to enable efficient searching online. Words that are in the title can, and should, be among these. Very short phrases and scientific names with their common equivalents (e.g. *Nicotiana tabacum* (tobacco)) are acceptable.
- Any Materials and Methods section should allow replication of all experiments described and demonstrate the validity of those experiments for the research being conducted.

## Tables and figures

### Tables

These must be self-explanatory and each presented on a separate page after the main text, but as part of the same document. Following a concise (single-sentence), informative heading, each

table should be fully understandable either through column headings or, if these are insufficient in themselves, through a footnote.

### Figures

- Refer to all diagrams, graphs and photographs as ‘Figures’.
- Present at approximately twice the size that they will appear. Ensure that, after reduction, they will be compatible with the double-column format of the journal.
- Subdivisions of figures should be labelled with lower case, bold letters (e.g. **(a)**, **(b)**) and referred to in the text in the form (Fig. 1a), (Fig. 1a,b). Avoid including explanatory material in the figure itself – this should be in the legend.
- Present diagrams and graphs on a white background, with lines approx. 0.5 mm thick, any shading inserted as lines or dots, and symbols should be approx. 3 mm across. The preferred symbols, in order, are open circles, closed circles, open and closed squares, and open and closed triangles. The same symbol should be used for the same entity in different figures. Axes should be clearly marked with units in brackets after the axis title.
- With photographs, include any scale bars on the picture. Where a figure is made up of several photographs, these should be abutted unless this affects the clarity.
- Figure legends should be included with the main text of the paper, after the References. Key information describing each figure should be in the first sentence; the legend should be a self contained, full explanation of the figure, with the species under investigation and all abbreviations defined.
- In general, figures should be kept to a minimum consistent with scientific necessity.
- We recommend that you consult the **Electronic Artwork Guidelines** at <http://authorservices.wiley.com/bauthor/illustration.asp>.

### Colour

There are no colour charges and we welcome colour figures, which will be published in full colour. Figures submitted in black-and-white will be published as such in the online article. Please ensure that where colour figures are submitted, that their legends make reference to colour where necessary. To ensure optimal reproduction of your colour figure, please ensure that the file is provided in RGB format.

### References

**Citations in the text** should take the following format:

Single author (Porter, 2013); two-author (Abraham & Elbaum, 2013); and three or more authors (Sinkkonen *et al.*, 2012). Where different references would appear identical when cited in this manner, use letters after the date in the citations and reference list (Secco *et al.*, 2012a,b). Where two authors have the same last name, add their initials (F. J. Zhao *et al.*, 2010). **Order lists of references in date order** (oldest first), and **alphabetically** when of the same date: (Rokas *et al.*, 2003; Kocot *et al.*, 2011; Smith *et al.*, 2011; Struck *et al.*, 2011).

**In press and unpublished citations** Cite references ‘in press’ only if accepted by a named journal. All other references (including submitted papers and abstracts, personal communications and personal observations) must be cited in the text as unpublished (C. J. Frost & H. Liang, unpublished; R. J. Norby, pers. comm.; A. H. Fitter, pers. obs.) and should not be included in the reference list.

**Reference list** At the end of the text list references alphabetically (up to a maximum of 10 authors per citation) using these standard forms:



*(Regular research articles)*

**Amselem J, Cuomo CA, van Kan JAL, Viaud M, Benito EP, Couloux A, Coutinho PM, de Vries RP, Dyer PS, Fillinger S *et al.* 2011.** Genomic analysis of the necrotrophic fungal pathogens *Sclerotinia sclerotiorum* and *Botrytis cinerea*. *PLoS Genetics* **7**: e1002230.

**Smith S, Rausher MD. 2011.** Gene loss and parallel evolution contribute to species difference in flower color. *Molecular Biology and Evolution* **28**: 2799–2810.

**Strader LC, Chen GL, Bartel B. 2010.** Ethylene directs auxin to control root cell expansion. *Plant Journal* **64**: 874–884.

*(Research report)*

**IPCC. 2007.** Solomon S, Qin D, Manning M, Chen Z, Marquis M, Averyt KB, Tignor M, Miller HL, eds. *Climate change 2007: the physical science basis. Contribution of Working Group I to the fourth assessment report of the Intergovernmental Panel on Climate Change*. Cambridge, UK & New York, NY, USA: Cambridge University Press.

*(Book)*

**Smith SE, Read DJ. 2008.** *Mycorrhizal symbiosis*. Cambridge, UK: Academic Press.

*(Book chapter)*

**Eckert CG, Samis KE, Dart S. 2006.** Reproductive assurance and the evolution of uniparental reproduction in flowering plants. In: Harder LD, Barrett SCH, eds. *The ecology and evolution of flowering*. Oxford, UK: Oxford University Press, 183–203.

*(Thesis)*

**Darbaj JNT. 2007.** *Impacts of elevated atmospheric CO<sub>2</sub> and/or O<sub>3</sub> on carbon gain and reproductive capacity in northern forest ecosystems*. PhD thesis, Michigan Technological University, Houghton, MI, USA.

*(Web document)*

**Webb C, Ackerly D, Kembel S. 2009.** *Phylocom. Software for the analysis of phylogenetic community structure and character evolution*. [WWW document] URL: <http://phylodiversity.net/phylocom/>. [accessed 1 September 2011].

*(‘In press’ article)*

**Schowalter TD. 2012.** Insect herbivore effects on forest ecosystem services. *Journal of Sustainable Forestry*, in press.

**References that are available online** to be listed as:

**Schulze S, Kay S, Büttner D, Egler M, Eschen-Lippold L, Hause, G, Krüger A, Lee J, Müller O, Scheel D *et al.* 2012.** Analysis of new type III effectors from *Xanthomonas* uncovers XopB and XopS as suppressors of plant immunity. *New Phytologist*. doi: 10.1111/j.1469-8137.2012.04210.x

If work that is ‘in press’ from the authors’ own lab(s) forms a close companion to the paper submitted, then an electronic version should be included with the submission. We recommend the use of a tool such as **Zotero** (<http://www.zotero.org/>), **EndNote** (<http://www.endnote.com/support/enstyles.asp>) or **Reference Manager** (<http://www.refman.com/support/rmstyles.asp>) for reference management and formatting.

## Supporting Information

**What is Supporting Information (SI)?** Data that are integral to the manuscript but impractical to include within the full text and typeset article (e.g. large-scale data sets and videos) may be presented as SI. All data that are directly relevant to, and necessary for support of the central claims and conclusions of the article, must be presented in the manuscript itself. Please note the following points:

- A Microsoft Word template for SI is available at [ftp://](ftp://journals.circus@obp-ftp.oxon.blackwellpublishing.com/NPH/New_Phytologist_SI_template.doc)

[journals.circus@obp-ftp.oxon.blackwellpublishing.com/NPH/New\\_Phytologist\\_SI\\_template.doc](ftp://journals.circus@obp-ftp.oxon.blackwellpublishing.com/NPH/New_Phytologist_SI_template.doc).

- SI should take the form of Figures, Tables, Methods, Videos/movies or Notes.
- SI must be referred to in the main text in the following format: Supporting Information Fig. S1, Table S1, Video S1, etc., and cited in order numerically by type (Fig. S1, Fig. S2, etc.).
- A brief, single sentence legend for each item of SI should be given at the end of the References.
- Full legends should be included in the SI files, and all text should be consistent with *New Phytologist* style.
- SI will NOT be copy-edited and must be submitted in final form, ready for publication.
- Citations are not encouraged in SI.
- SI will be reviewed.
- SI cannot be altered after acceptance.
- Where possible authors should provide a single file containing all the SI, using the template referred to above as a guide.
- Files should be as small as possible and in accessible formats to allow rapid download.
- SI is subject to the same copyright restrictions as published manuscripts.
- SI should not be used to reduce article length.
- Data and information that are peripheral to the conclusions may, subject to Editor approval, be provided as SI.
- Contact [np-centraloffice@lancaster.ac.uk](mailto:np-centraloffice@lancaster.ac.uk) for any SI queries.

## Abbreviations

All non-standard abbreviations must first appear in parentheses following their meaning written in full at first mention in the Summary, main text and each table and figure legend. Avoid abbreviations if possible in the title, headings and Summary.

*New Phytologist* **standard** and **preferred abbreviations** can be found in the Submission guide for Authors ([http://onlinelibrary.wiley.com/journal/10.1111/\(ISSN\)1469-8137/homepage/SubmissionGuideForAuthors.pdf](http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1469-8137/homepage/SubmissionGuideForAuthors.pdf)).

## Scientific names

If the species is in very common usage then the common name will suffice, although the scientific name should still be given at first mention (e.g. soybean (*Glycine max*)) in the Summary and main text. Otherwise, give the genus and species names at first mention in the Summary, main text and in each table and figure. For subsequent uses, abbreviate genera to their initial letters, except where this could result in confusion between species. In all cases, give the genus, species and authority of species under study in the Materials and Methods section. Cultivars should be preceded by cv. Use a standard regional flora; for non-vascular plants and other organisms, cite standard or local works of reference. When referring to articles containing old nomenclature, the currently accepted forms should still be used; the old name should be given at first mention (e.g. *Pulsatilla vulgaris* (formerly *Anemone pulsatilla*)).

## Statistics

When appropriate, a statistical treatment of data, stating what methods have been used, must be given. As a minimum, give some measure of variability, such as standard error or confidence interval, together with the mean. In presenting error bars on figures, make clear whether the bars represent one or two standard errors, or confidence limits. If necessary, present results of tests of significance, such as analysis of variance, in addition to tests of variability. After an analysis of vari-

ance, comparisons of treatment means that are restricted to specific comparisons planned before the collection of data are preferable to simultaneous tests of all treatment means. Present the number of degrees of freedom for error with all statistical analyses. The following are standard statistical parameters that require no definition:  $F$ ,  $P$ ,  $t$ ,  $r^2$ ,  $t$

## Units and symbols

The journal uses **SI units** wherever possible, but accepts that other units may on occasion have to be used. Products of two units must be written with a space between the units (e.g.  $10 \text{ g m}^{-2}$ ). Units derived by division must be written using the appropriate index (e.g.  $\text{m s}^{-1}$  (not  $\text{m/s}$ )). Note the placing of the name of a substance in, for example,  $10 \text{ g mg}^{-1}$  protein. Use the appropriate prefix for units and thus avoid using multipliers on axes of graphs or in headings of tables. When these have to be used, because no SI prefix is appropriate, apply the multiplier to the physical quantity, not to the unit. Thus, 135 000 cells should be written as  $\text{cells} \times 10^{-5} = 1.35$ . The multiplier is that by which the original number has to be multiplied to yield the number given in the table or figure.

For **volume** units based either on the litre (e.g. l, ml,  $\mu\text{l}$ ) or on the cubic metre (e.g.  $\text{m}^3$ ,  $\text{mm}^3$ ,  $\text{cm}^3$ ,  $\text{dm}^3$ ) will be accepted, provided that consistent use is made of one system only. For **concentration** the same applies, as well as units such as  $\mu\text{M}$ , mM and M.

Use units based on energy for **heat** or **energy balance**, and units based on photons for **photochemical processes** such as photosynthesis or photomorphogenesis. The waveband over which measurements are made should be specified (e.g. energy fluence rate (irradiance) of  $650 \text{ W m}^{-2}$  over the waveband 300–1000 nm; photosynthetic photon fluence rate (PPFR) of  $720 \mu\text{mol m}^{-2} \text{ s}^{-1}$  over the waveband 400–700 nm).

For **radioactivity** use the becquerel (Bq, disintegrations  $\text{s}^{-1}$ ) in preference to counts per minute (cpm) or disintegrations per minute (dpm). For simple molecules, indicate labelling by writing the isotope in the chemical formula (e.g.  $^{14}\text{CO}_2$ ,  $^{15}\text{NH}_4^+$ ). For other molecules, place the isotope in square brackets directly in front of the name without a hyphen or space (e.g.  $^3\text{H}$ alanine). Indicate the positions of isotopic labelling by numbers or prefixes placed within the bracket and followed by a hyphen (e.g.  $[6\text{-}^{14}\text{C}]$ glucose). The symbol U indicates uniform labelling (e.g.  $[\text{U-}^{14}\text{C}]$ glucose).

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