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Ecology

Author Guidelines

47-60 minutes

Ecology

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Manuscript Submission

New submissions must be submitted through [ScholarOne](#).

If you have not already done so, check to see if you are already in the ScholarOne database by putting your email address in the E-mail Address field under Password Help and click "Go". You could be in the database even if you were never previously an author of a manuscript submitted to any of the ESA journals. Do not create a new account if you are already in the database. If you suspect we have an old email address for you, please contact

esajournals@esa.org to update your record. If you have verified that there is no account for you, you can create an account at the submission site by clicking on the “Register Here” button. Please study the site’s Instructions and Forms using the link at the top of the screen and then let the system guide you through the submission process. Online help is available to you at all times during the process.

Types of contributions

Ecology is publishing more concise papers than has been the tradition for this journal. Concise publications yield increased interest, allow a greater number of papers and topics to appear in the journal, and provide greater content per page published. The number and average length of Articles published in *Ecology* is decreasing, and the number of Reports is increasing. Many publications conceived in the past as Articles will hence forth be cast as Reports, with an average length of 5-6 journal pages. Our goal is to publish Reports within six months of submission. Articles and Concepts and Synthesis papers will continue to be published in *Ecology*, but these will be shorter than the average Article of the past. Authors will designate portions of their manuscript as supporting information to appear in Wiley Online Library and be directly linked to the publication.

Manuscript types are as follows. These links will open up a new page in our "Types of Contributions" section.

- [Reports](#)
- [Statistical Reports](#)
- [Articles](#)
- [Concepts & Synthesis](#)
- [The Scientific Naturalist](#)
- [Special Features](#)

- [Forums](#)
- [Comments and Replies](#)
- [Data Papers](#)
- [Perspectives](#)

Submission requirements

Cover Letter. The cover letter should explain how the manuscript fits the scope of the journal, and more specifically how it advances the field, while having broad appeal. If the manuscript relates to any previous submission to an ESA journal, that must be explained as well. Longer submissions (those between 30 and 50 manuscript pages) should be accompanied by a detailed justification for the length. There is a required text box for the cover letter. Uploading a cover letter as an attachment is optional.

Author List. All authors and co-authors must be present in both the online submission form and on the title page of the manuscript. State each author's affiliation(s) on the title page, usually the institutional affiliation of the author during the period when all or most of the data were collected. Present address(es), if different, should appear in parentheses.

There can be only one corresponding author for a manuscript. During peer review, the corresponding and contact authors can be the same person, or you can have two different authors for the two roles. Statements of author roles may be provided within the paper's Acknowledgments section if you feel author contributions should be specifically noted.

Contact author: Will handle all correspondence during the submission and review process.

Corresponding author: Will handle all correspondence with the publisher following acceptance and be the official correspondent of the published version of the manuscript. The Corresponding Author will be the author that works with the publisher during production;

this author will be responsible for signing the license agreement, approving proofs, naming a billing contact, and will be listed as the correspondent on the published version.

Original Submission. Provide information describing the extent to which data or text in the manuscript have been used in other works that are published, in press, submitted, or soon to be submitted elsewhere. Enter this information in section “Dual Publication”.

No Prior Publication. ESA journals require that all submissions be original contributions, with full disclosure of any possible redundant publication made in a letter accompanying the submission. Under certain circumstances, use of the same data in two or more publications is appropriate and beneficial. This may be particularly true when new information allows reinterpretation of previously published data. In many cases, however, duplicate publication is wasteful of journal space and user resources. Although it is the Editor's responsibility to decide whether specific duplications are useful or wasteful, these decisions are generally based on information supplied by the authors. ESA journals have adopted a policy to facilitate this process. At the time of submission, authors must provide information describing the extent to which data or text in the manuscript have been used in other papers that are published, in press, submitted, or soon to be submitted elsewhere. In cases of overlap with other publications or submissions, authors should include copies of said papers along with the current submission.

Sometimes it is difficult to assess whether a work has truly been published previously. If a previous work was published in a journal or book that is already available in libraries, or is available for libraries to purchase, we expect no more than one-third overlap between the previous publication and the submission to ESA. Reference should be made to any closely related previous publication, especially if a table or figure is reproduced. If any data in a manuscript have been included in other published or unpublished manuscripts, the legend of each table or illustration

reporting such data must cite those manuscripts. When in doubt, an author should supply copies of the previous publication to be sent to the Subject matter Editor and reviewers, who would then be asked to consider this matter. Authors are responsible for obtaining permission to reproduce previously published material.

A posting of a manuscript or thesis on an author's personal or home institution's website or ftp site generally will not be considered previous publication. Similarly, posting of a "working paper" in an institutional repository is allowed so long as at least one author is affiliated with that institution. Submitted manuscripts may have been posted to a preprint archive if the papers in the archive are not peer-reviewed, and provided that a link to the published article will be added if the manuscript is accepted by an ESA journal. Authors should disclose whether such a posting has been made at the time of submission. If a manuscript is available as part of a digital publication such as a journal, technical series, or some other entity to which a library can subscribe (especially if that publication has an ISSN or ISBN), we will consider that the manuscript has been published and is thus not eligible for consideration by our journals. Finally, a necessary test for prior publication is whether the author can legally transfer copyright to ESA.

Resubmission Policy. If the manuscript (or an earlier version of the manuscript) has been previously submitted to the same or another ESA journal, provide the previous manuscript number; explain how the current version differs from the previously submitted version and why it should be considered now for this journal. There are no guarantees it will be reviewed by the newly targeted journal. Enter this information in section "Previously Submitted".

Adherence to the ESA Code of Ethics. Authors should adhere to the [ESA Code of Ethics](#); it deals with authorship, plagiarism, fraud, unauthorized use of data, copyrights, errors, confidentiality, intellectual property, attribution, willful delay of publication, and conflicts of interest, as well as other matters that are not specific to

the publication process. The following general principles will be adhered to in dealing with situations in which an author's ethics are in question.

Manuscripts submitted to ESA journals are confidential. We will not normally reveal whether an author has submitted a manuscript to us or what a particular manuscript might contain, unless the authors ask that we do so. To do otherwise would be to compromise the ability of an author to obtain proper credit for his or her discoveries.

In the event that a private individual reports to us concerns about the ethics of a particular author, we will take note of such concerns and watch for any manuscript by that author that might represent questionable ethical practices.

If ESA has reason to doubt the ethical practices of an author of a manuscript, either because of concern raised by an editor, or because of information obtained from some other source, the Editor-in-Chief will process the manuscript in accordance with normal practice, but will simultaneously refer the matter to the ESA Professional Ethics Committee for review. The Committee will conduct whatever investigation it feels appropriate, taking care not to inadvertently damage the reputation of any of the parties concerned. The Editor-in-Chief will receive the advice of the Committee and decide a course of action in consultation with the Executive Director of the Society.

Animal welfare. Authors using experimental vertebrate animals must certify that their care was in accordance with institutional guidelines.

Endangered species. Authors must certify that research involving endangered species was conducted in conformance with all applicable laws.

Open Research Policy. For new manuscript submissions as of 1-February-2021, authors must adhere to the ESA open research policy available [here](#).

Papers submitted prior to 1-Feb-2021, and revisions/accepted versions of these submissions, should continue to adhere to the policy in place at the time of the original submission, as shown below.

Although public data availability is not strictly a requirement for manuscripts submitted prior to 1-February-2021, any information on materials, methods or data necessary to verify the conclusions of the research reported must be made available to the Subject Matter Editor upon request.

By depositing data prior to publication of a manuscript, a permanent link can be made to and from the published paper. [Wiley Online Library](#) or Figshare can be used for this purpose, but only if the material is submitted with the original submission for peer review. Data must be deposited in other depositories following acceptance and prior to publication.

Authors are strongly encouraged to deposit the data underlying their manuscripts in the [Dryad](#) data repository or [Figshare](#), which both provide flexible platforms for a wide variety of digital data. Other permanent depositories include [GenBank](#) for DNA sequences, [ORNL-DAAC](#) for biogeochemical data, [Knowledge Network for Biocomplexity: KNB](#) and the [Environmental Data Initiative \(EDI\)](#), as well as institutional repositories such as that at the [University of Illinois](#).

Authors will be responsible for any fees charged by external data repositories.

Analytic Methods Requirement (*for papers submitted prior to 1-Feb-2021*). Authors must disclose software and statistical procedures (including their version numbers) used in the manuscript and provide any novel computer code used for models, simulations, or statistical analyses at the time of submission. Computer code should be sufficiently documented so that reviewers and readers can reconstruct simulations, models, or analyses as reported in the submission and ultimate publication.

For new manuscript submissions as of 1-February-2021, authors must adhere to the ESA open research policy available [here](#).

English Language Editing. Authors are encouraged to enlist the aid of a technical editor for correct grammar and term usage and general clarity of the writing. Many such services are available online. No guarantees are associated with the use of these services.

Page Charges. Authors must agree to pay page charges or must obtain an ESA page-charge grant. Page charges will only be incurred for manuscripts accepted for publication.

Manuscript format

Consult recent issues for examples of journal style. Be sure to abide by the following minimum formatting requirements for submitted manuscripts:

- The manuscript text and literature cited must be double-spaced (no more than three lines per inch) in 12-point Times New Roman font. Choose the "double-spacing" option for line spacing. Leave a 1 inch (2.54-cm) margin on all sides of each page. Page size should be Letter 8½" by 11".
- Assemble the parts of the manuscript in this order: title page, abstract (or Introduction if manuscript type has no abstract) on a new page, key words, text, acknowledgments, literature cited, tables (one table per page), figure legends (on separate page preceding the first figure), figures (one figure per page; label each figure, i.e., Figure 1, Figure 2, etc.), and lastly any Appendices. Please note that if your manuscript is accepted, the appendices would only be published online.
- Supplemental files should be uploaded individually. For the convenience of reviewers and editors, the ScholarOne system will automatically merge all compatible files into a single PDF.
- Number all pages (including tables and figures), starting with the

title page.

- All pages of text must have line numbers.

Allowable File Formats

Main Document: Word (.doc or .docx), WordPerfect (.wpd), Rich-text format (.rtf) or LaTeX (.TEX) format. If submitting in LaTeX, please also upload a PDF version - fonts included, no T3 fonts - of your LaTeX file. These LaTeX files should be placed in a compressed folder and labeled "LaTeX file".

Tables: Should be included in the Main Document. Do not upload tables as individual files.

Figures: .doc, .docx, .jpeg, .tif, .eps, .ps, .pdf, .ppt, or .ai format (or figures may be included in the manuscript file).

Figures can be provided in three ways: Part of the Main Document, uploaded as individual Figure files, or uploaded as a single Figure file that contains all figures. Not matter which option you choose, figure captions should be provided in their own section of the Main Document.

NOTE: Figure captions entered into the "Caption" field for files uploaded as a "Figure" will only show up for certain file types. If your figure captions do not show up with your figures in the generated PDF, you will need to have the captions embedded within the figure file itself.

Supporting information: Appendices in .doc, .pdf, or .html format. Video appendices in .mpeg or .mov format.

For submissions prior to 1-February-2021, data/code files previously provided as Supporting Information should remain as such. For submissions after 1-February 2021, data and code files are expected to be placed on repositories per the [ESA Open Research policy](#).

Peer Review Process

For a complete overview of the Peer Review Process, please [visit our new page](#) on the ESA site.

Accepted Manuscripts

Assembly. Assemble the parts of the main manuscript in this order: title page, abstract, key words, text, acknowledgments, literature cited, tables, figure legends. Figures can be provided as the last pages of the main manuscript or as separate files. Appendices and Supplements should follow in a separate file or files. Number all pages of the main manuscript file consecutively.

All papers must be in English. Use American spellings (e.g., behavior, not behaviour). The CBE Style Manual, Fifth Edition, is recommended for details of style.

Title Page

All title pages should contain the following elements:

- **Running Head.** A running head of no longer than 40 letters and spaces should be provided at the top of the title page.
- **Title.** Titles should be concise, informative, tell what the paper is about and what it found. It should contain key words necessary for digital search and retrieval methods. Avoid vague declarations (e.g., "effects of ..."); strive for information content (e.g., "fungi kill tardigrades"). The maximum length is 120 characters, including spaces. Do not include the authority for taxonomic names in the title or in the abstract. Titles may not include numerical series designations. The first letter of the first word in the title is capitalized. All other words, except for proper nouns, are lowercase.
- **List of Authors.** For each author, give the relevant address, usually the institutional affiliation of the author during the period when all or most of the research was done. Each author's present address, if different from this, and the author's email address

should appear as a footnote at the bottom of the title page. Identify the Corresponding Author on the title page. Individuals listed as authors should have played a significant role in designing or carrying out the research, writing the manuscript, or providing extensive guidance on the execution of the project. Those whose role was limited to providing materials, financial support, or review should be recognized in the Acknowledgments section.

Abstract

The abstract should explain to the general reader why the research was done and why the results should be viewed as important. It should provide a brief summary of the research, including the purpose, methods, results, and major conclusions. Do not include literature citations in the Abstract. Avoid long lists of common methods or discursive explanations of what you set out to accomplish.

The primary purpose of an abstract is to allow readers to determine quickly and easily the content and results of a paper. Abstracts should not exceed 200 words for Reports and Statistical Reports, and 350 words for Articles and for Data Papers.

Key Words

Following the Abstract, list between 6–12 key words/phrases. Each key word should be useful as an entry point for a literature search.

Body of the Article

If appropriate, organize your article in sections labeled Introduction, Methods, Results, and Discussion. You may need to add a section for Conclusions. Brief articles usually do not require a label for the Introduction. If the nature of your research requires a different organization, specify the level of each section heading (1st-order head, 2nd-order head, etc.) by using unique type styles (italics, boldface) consistently for each heading in the hierarchy.

A brief **Introduction** describing the paper's significance should be intelligible to the general reader of the journal. The Introduction

should state the reason for doing the research, the nature of the questions or hypotheses under consideration, and essential background. The Introduction is not a place for a lengthy review of the topic.

The **Methods** section should provide sufficient information to allow someone to repeat your work. A clear description of your experimental design, sampling procedures, and statistical procedures is especially important. Do not describe commonplace statistical tests in Methods, but allude to them briefly in Results. If you list a product (e.g., animal food, analytical device), supply the name and location of the manufacturer. Give the model number for equipment specified. Supply complete citations, including author (or editor), title, year, publisher and version number, for computer software mentioned in your article.

Results generally should be stated concisely and without interpretation, though in complex studies modest interpretation of individual parts can provide context helpful for understanding subsequent parts. The

Discussion should explain the significance of the results. Distinguish factual results from speculation and interpretation. Avoid excessive review.

Acknowledgments

Acknowledgments, including funding information, should appear in a brief statement at the end of the body of the text.

Acknowledgments of specific author contributions to the paper should appear here.

Literature Cited (and other citations)

Avoid excessive citations; cite only essential sources. Before submitting the manuscript, check each citation in the text against the Literature Cited to see that they match exactly. Delete citations if they are not actually cited in the article. The list should conform in sequencing and punctuation to that in recent issues of the journal.

All journal titles should be spelled out completely. Provide the publisher's name and location when you cite conference proceedings or other books.

The Literature Cited section of a paper may refer only to permanently archived material. If a reasonably diligent scholar 20 years in the future could not be assured of finding a particular source, it would not be acceptable as literature cited. Because Internet sources typically have a short half-life, they may not be included in Literature Cited sections unless there is reasonable evidence of permanency (e.g., Dryad). As a general rule, any publication that has an ISSN or ISBN is acceptable, but should be referenced by name (the URL may be added, but is not essential).

Do not list abstracts or unpublished material in the Literature Cited. These materials may be listed in the text as personal observations (by an author of the present paper), personal communications (information from others), public communications (information in published abstracts or information publicly distributed over the Internet but not permanently archived), unpublished manuscript, or unpublished data (for any unpublished data, keep in mind that new submissions made as of 1-February-2021 must adhere to the [ESA Open Research](#) policy and provide underlying data as a condition of publication of accepted papers). The author(s) is expected to verify for all "personal communications" that the authority cited agrees to the use of his or her name. For public communications, the reference should include date accessed, and title of the source, and basic access information such as URL.

Tables

Tables should be included as part of the Main Document, appearing in their own section after the Literature Citations. The first table should be provided on a new page, with each table on its own page. Captions and footnotes for tables should be provided on the same page as the table and must be double-spaced in size-12 Times New Roman font. They should be numbered in the order of

their citation in the text.

Tables should supplement, not duplicate, the text. Provide a short descriptive title at the top of each table; rather than simply repeating the labels on columns and rows of the table, the title should reveal the point of grouping certain data in the table. Statistical and other details should be provided as footnotes rather than appearing in the title. Never repeat the same material in figures and tables; when either is equally clear, a figure is preferable. Do not include any class of information in tables that is not discussed in the text of the manuscript.

For new submissions, shading and embedded image files are acceptable within tables. If a revision or resubmission is invited, authors will be required to remove this formatting. If such enhancements are needed, the information should be formatted as a figure. Final versions of accepted manuscripts must have “true” tables in an editable format, created by using the “Insert Table” function, rather than using tabs or spaces. In Microsoft Word you should select “Insert”, “Table”, then specify the number of rows and columns and fill in the individual cells.

Figures

General Information

- Only one set of figure images should be uploaded. If authors upload a second set of identical figures (usually to provide a higher resolution set), they will be contacted and asked to remove one version.
- Figure captions should be presented in the manuscript text file on a new page immediately following the last table (if tables are not present, the figure captions should be presented on a new page following Literature Cited). You can present an additional copy of your captions (single-spaced if you wish) under the figure image to aid in the review process.
- Each figure should appear on its own page following the figure

captions section, with all parts of the figure on a single page. Do not embed figures in the body of your article document.

- Figures uploaded as separate image files should clearly state the figure number in the file name.
- Image quality will be drastically reduced, possibly impacting readability, if you do not supply your images in the preferred formats and resolutions.

Source image files in the following formats are preferred for accepted manuscripts:

- TIFF
- JPEG
- EPS (vector graphics)
- AI
- PDF (with fonts embedded)
- Word and PowerPoint may be acceptable if the source image resolution is sufficient.

Naming and journal style conventions:

- Number each figure with Arabic numerals (1, 2, 3, etc.) in order of their citation in text. Label multipart figures with consecutive letters of the alphabet, using a lowercase letter (a, b, c, etc.). When possible, place this letter in the upper left corners of the figure panels, either outside the figure or within the figure itself.
- Define abbreviations in the figure legend, not on the figure itself. Symbol keys and scale bars should appear on the figures, not in the text figure legends.
- Label all figure axes and include units; the units should conform to the International System of Units (SI) per journal style. If measurements were made in other units, include SI equivalents.

General Appearance:

- Because this journal is published online only beginning in 2018, color figures incur no additional charge and are encouraged for your submission. We suggest using a colorblind-friendly palette.
- Grayscale patterns do not reproduce as well as solid colors or lines. Avoid small dotted lines, thin lines, multiple levels of gray shading, and stippling. For bar graphs, use black, white, striped, hatched, or colored designs, but only if they are sufficiently widely spaced to appear distinct from one another.
- For symbols and lines, avoid very small sizes or line thicknesses (a 1-point width stroke or greater is preferable). All elements of a figure should appear with the same degree of intensity. If different degrees of intensity need to be conveyed, lines should differ by 1-point width for clarity.
- If no important information will be lost, consider placing fewer numbers on the axes to achieve an uncluttered look.
- Make figures as clean and uncluttered as possible; avoid extra gridlines and section boxes.
- Maps should include longitude and latitude, an indication of compass direction, a distance scale, and a thin outer line as a border. Make lines on maps bold and distinct while eliminating information not pertinent to the subject.

Size and Proportion:

- Files should adhere to the following resolution requirements:
- 600 dpi for black and white or color line art (bar graphs, charts, etc.)
- 300 dpi for photographs
- 600 dpi for combination images (photographs that also contain line art, text, or thin lines)
- When possible, submit figures in the size intended for publication in the typeset PDF of your article.
- Most illustrations, except some maps and very wide graphs, should

aim for single-column width (3 inches).

- For wide or multi-panel figures, provide images sized no larger than necessary in either the preferred portrait layout (maximum 6 inches wide x 8 inches high) or in rare cases, in landscape layout (maximum 8.75 inches wide x 5.25 inches high).
- A consistent font (Helvetica is preferred) should be used throughout the images, as well as a text size hierarchy.
- Use boldface and italic type only if required for journal style.
- Use sentence case (i.e., only capitalize the first word and proper nouns) for axis titles, labels, and legends.
- All text must be sized between 6 and 10 point when the image is sized for publication. For readability, we suggest:
 - sizing axis numbers between 6-7 point
 - sizing axis labels between 8-9 point
 - panel labels that consist of words should be between 7-8 point
 - panel labels that consist of a single letter should be 10 point

Figure Preparation Tips

- The LZW compression option is key for generating high quality TIF figures of a reasonable byte size. Please ensure TIF files are saved using LZW compression.
- Many authors have the best results producing figures as PDF files using the “Press Quality” setting under the “Print-to-PDF” option in their image software.
- For figures generated in R, we suggest creating a TIF file using the following setting:
 - `Tiff(filename="FigX.tif",height=5600,width=5200,units="px",res=800,compression=`
- For figures generated in Excel, we suggest converting to PDF format via the Print dialog.
- Choose “PDF” as the printer and specify “Press Quality” under the advanced options.

- The final goal is a single file for each figure that remains crisp and clear when the on-screen view is significantly zoomed in and also produces a high quality print.

Supporting Information

Digital appendices to be posted in conjunction with the article must be provided with your original submission or revision for peer review and editorial approval. New material cannot be added after acceptance of your article. Supporting Information will be linked to the manuscript in the online journal but is not copyedited nor typeset; this material should be prepared for publication in Wiley Online Library by the author.

For submissions made prior to 1-February-2021, data and code previously provided as Supporting Information should remain as such. For submissions after 1-February 2021, data and code files are expected to be placed on repositories per the [ESA Open Research policy](#).

Formatting appendices

At the top of each appendix, list the authors, manuscript title, and journal name. Place tables and figures within appendices. For each appendix, include a full Literature Citations section for all references found therein.

Supporting Information should be labeled with the prefix "S"; for example Appendix S1 (for the first appendix), Appendix S2 (for the second Appendix), and so on. Within each appendix, the table, figure, and equation labels start with "S1" and numbering begins anew with each appendix. For references to the material within the text, provide the appendix label as well as the specific table or figure references (e.g. "Appendix S1: Table S3" or "Appendix S2: Figure S1").

Formatting code/script files Your code files should be provided in their native format, given unique and descriptive file names, and combined into compressed folders (.ZIP or .RAR files) that follow

the naming convention "DataS#" (Examples: DataS1.zip, DataS2.zip, DataS3.zip, etc.).

You have the option of providing the material in one or more compressed folders. You should organize the files in a way that best matches the presentation in your paper, with corresponding call-outs in the main text. For example, if sets of code are to be used together and are referenced early in the paper as such, a single compressed folder and call-out would be preferable. However, if sets of code are referred to separately in distinct sections of the paper, they would be better presented as multiple compressed folders with multiple call-outs to differentiate them. You should consider which format would be useful to a reader of your paper as you make this choice.

Within your manuscript code files should be referenced as "DataS#: [specific file name]".

You must provide a Metadata file for each compressed code folder you upload. Your Metadata files should be formatted using our template. Metadata files should follow the naming convention "MetadataS#", with the number ("#") matching the Data folder that the Metadata corresponds to. Each Metadata file should be uploaded as a separate document labeled "Supporting Information for review and publication" that is placed outside of the compressed folder. A copy of our template can be found here:

https://www.esa.org/wp-content/uploads/2021/03/MetadataS1-Template_Mar2021.docx.

File naming conventions for supporting information

File naming conventions for Supporting Information

CALL-OUT within main article or other appendices	DESCRIPTION	NAME of file	OTHER allowable file types
Appendix S1	First appendix	AppendixS1.docx	.pdf, .html, .rtf
Appendix S2	Second appendix	AppendixS2.docx	.pdf, .html, .rtf
Appendix S2: Table S1	First table in second appendix	AppendixS2.docx	.pdf, .html, .rtf
Appendix S2: Fig. S1	First figure in second appendix	AppendixS2.docx	.pdf, .html, .rtf
Appendix S3: Fig. S1	First figure in third appendix	AppendixS3.docx	.pdf, .html, .rtf
Appendix S3: Eq. S1	First equation in third appendix	AppendixS2.docx	.pdf, .html, .rtf
Metadata S1	First metadata for data/code in Data S1	MetadataS1.docx	.pdf
Metadata S2	Second metadata for data/code in Data S2	MetadataS2.docx	.pdf
Data S1	First set of data and/or code	DataS1.zip	.txt, .csv, .R, .r, .m, .nb, .nlogo, .for, .pdf, etc. (placed in a ZIP with file names matching Metadata S1 descriptions)
Data S2	Second set of data and/or code	DataS2.zip	.txt, .csv, .R, .r, .m, .nb, .nlogo, .for, .pdf, etc. (placed in a ZIP with file names matching Metadata S2 descriptions)
Video S1	First video	VideoS1.mov	.mpg
Video S2	Second video	VideoS2.mov	.mpg
Video S1 Legend	Legend (description) of first video	VideoS1Legend.docx	.pdf
Audio S1	First audio file	AudioS1.mp3	.wav
Audio S2	Second audio file	AudioS2.mp3	.wav
Audio S1 Legend	Legend (description) of first audio file	AudioS1Legend.docx	.pdf

NOTE: All Supporting Information must adhere to one of the categories above. Data and code files are posted within ZIP files to maintain their descriptive file names (such as “plant_height.txt” or “abgFunction.R”).

Best practices for computer code and statistics: Authors must disclose software and statistical procedures used in the manuscript and provide any novel computer code used for models, simulations, or statistical analyses. With respect to computer code and scripts (e.g., in R), authors should adhere to the following best practices when possible:

1. Novel computer source code and scripts must be submitted as Supporting Information with the manuscript. If the paper is accepted, this material must be made publicly available in a code repository such as Github or Bitbucket unless there are justifiable reasons not to do so (e.g., third party intellectual property). If the Code submitted to a public code repository, requires a persistent identifier such as a DOI for the specific revision of the software. For example, Github deposits require a Zenodo DOI; see <https://guides.github.com/activities/citable-code/> . Scripts can normally be provided as readable text that can be opened in a plain text editor; examples of suitable formats include .txt, .csv, .R, .r, .m.
2. Provide the version number of the software used in the manuscript (e.g., R version 3.2.3). Optionally, authors may also list the make and version of the platform on which the code was run and version numbers of any other software packages that a successful code run

would depend upon.

3. Include documentation (i.e., metadata) and comments that are sufficient to enable interpretation and reuse of the code including specific instructions for how to rerun analyses presented in the paper. [Follow good coding/scripting practices and use meaningful file and variable names in the code whenever possible (e.g., "Sevilleta_2015_community_phylogeny.txt" instead of "mydata.txt" and "plant_height" instead of "ht"). Although optional, authors may wish to provide example code and expected output to better enable re-use and to support simple testing that the code is running as desired.]
4. Authors are also encouraged to include an explicit license for code—ideally one that is a permissive, free software license that places very minimal restrictions on re-use such as the MIT License or other Open Source Initiative (OSI)-approved licenses—or to place the code in the public domain via a Creative Commons license.

Conventions

Identification of the objects of study

Early in the manuscript, identify the type(s) of organism or ecosystem you studied; e.g., "*Cornus florida* L. (flowering dogwood), a small deciduous tree". Avoid descriptive terms that may be familiar only to specialists. Provide the scientific names of all organisms. Common names may be used when convenient after stating the scientific names.

Genus names must be spelled out the first time they are used, but may be abbreviated to a single letter thereafter if no confusion will result. If the article contains several different scientific names, it is a good idea to spell out the generic name the first time it appears in each major section. Species names must always be spelled out in text; space limitations in tables or figures may require use of a "code," such as the first letter of the genus and species name;

these letters should be in italics, like the original scientific name.

Check carefully the spelling of all scientific nomenclature.

Because usage of scientific names may vary between investigators and can be ambiguous when out of context, conformance to a comprehensive nomenclatural standard is highly desirable.

Suggestions for nomenclature standards are available for commonly studied groups.

The following standard treatments are recommended.

- *Phyla* -- Margulis, L & K.V. Schwartz. 1998. Five kingdoms: an illustrated guide to the phyla of life on Earth. Third edition. W.H. Freeman and Co., New York. 520 pp.
- *Birds* -- American Ornithologists' Union (AOU). 1998. Check-list of North American birds, Seventh edition. American Ornithologists' Union, Washington, D.C. 829 pp. (For North America). Monroe, B.L. Jr. & C.G. Sibley. 1993. A world checklist of birds. Yale University Press, New Haven, CT. 393 p. (For remainder of the world.)
- *Butterflies* -- Cassie, B. et al. 1995. North American Butterfly Association (NABA) checklist and English names of North American butterflies. Morristown, NJ. 43 pp.
- *Dragonflies* -- Paulson, D.R. & S.W. Dunkle. 1999. A checklist of North American Odonata including English names, etymology, type locality, and distribution. Slater Museum of Natural History Occasional Paper 56, Univ. Puget Sound, Tacoma, WA.
- *Fishes* -- Eschmeyer, W.N., C.J. Ferraris & M.D. Hoang. 1998. Catalog of Fishes. California Academy of Sciences. Page, L.M. et al. 2013. Common and scientific names of fishes from the United States, Canada, and Mexico. Seventh edition. American Fisheries Society Special Publication No. 34. 243 pp.
- *Lichens* -- Esslinger, T. L. & R. S. Egan. 1995. A sixth checklist of the lichen-forming, lichenicolous, and allied fungi of the continental United States and Canada. The Bryologist 98: 467-549.

- *Mammals* -- Wilson, D. E., and D. M. Reeder (editors). 1993. Mammal species of the world: a taxonomic and geographic reference. Smithsonian Institution Press, 1206 pp.
- *Mollusca* -- Turgeon, D.D. et al. 1998. Common and scientific names of aquatic invertebrates from the United States and Canada: mollusks. Second edition. American Fisheries Society Special Publication. No. 26. 526 pp.
- *Mosses* -- Anderson, L.E., H.A. Crum & W.R. Buck. 1990. List of the mosses of North America north of Mexico. Bryologist 93: 448-499
- *Reptiles and Amphibians* -- Collins, J.T. 1997. Standard common and current scientific names for North American Amphibians and Reptiles, Fourth Edition, Society for the Study of Amphibians & Reptiles. Herp. Circular No. 25. 40 pp. Frost, D.R. 1985. Amphibian species of the world: a taxonomic and geographic reference. Allen Press, Inc. Lawrence, KS. 732 pp. Petranka, J.W. 1998. Salamanders of the United States and Canada. Smithsonian Institution Press, Washington, D.C. 587 pp.
- *Vascular Plants* -- Flora of North America Editorial Committee. 1993-. Flora of North America North of Mexico. Oxford University Press, New York, New York, (where completed). Kartesz, J.T. 1994. A synonymized checklist of the vascular flora of the United States, Canada, and Greenland. Second Edition. Timber Press, Portland, Oregon. 622 p.

Equations, symbols, and abbreviations

Define all symbols, abbreviations, and acronyms the first time they are used. Use leading zeroes with all numbers <1 , including probability values (e.g., $P < 0.001$). Use boldface roman (nonitalic) type to denote matrices and vectors.

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