

The American Naturalist

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Published for The American Society of Naturalists


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General Guidelines

The *American Naturalist* is a monthly journal devoted to furthering the objectives of the [American Society of Naturalists \(ASN\)](#): **to advance our understanding of evolution, ecology, behavior, and other broad biological disciplines toward the conceptual unification of the biological sciences.**

Thus, the journal welcomes manuscripts that develop new conceptual syntheses, pose new and significant problems, introduce novel subjects to the readership, or change the way people think about a topic that will be of interest to the broad readership of the *American Naturalist*. When submitting, please explain in the Comments field how your manuscript fits these goals.

Articles

Major articles contain new data or **new theory** or new analysis of existing data. Papers proposing a **novel method** should address how the method advances understanding of a general conceptual issue, illustrate the application of the method to data, and discuss the potential for broader use of the approach.

The American Naturalist's policy is that papers should be as long as they need to be to make their case well, but the preference is for manuscripts that are **approximately 5500 words** or fewer of text, not including the literature cited, and have no more than **six tables and/or figures**. Additional material can appear in the expanded online edition. Such material can include appendixes, tables, and figures as well as electronic enhancements such as video, sound, and data files (see details below). Because each article must stand on its own merits, we do not accept paired articles.

Notes

Notes communicate concise points, using either data or theory. However, like Articles, they present insights of broad general significance and interest. Notes are no more than 3000 words of text (not including the literature cited) and have no more than three figures and/or tables in print.

Syntheses and Perspectives

Writing a paper for this section is an opportunity to analyze a significant body of work in biological sciences, to consolidate it in a way that derives new insights, and to suggest future research directions to a broad readership. These articles should present and summarize recent research, **but they are not traditional reviews**. Rather, **these articles should present a new, forward-looking, and synthetic perspective of a focal research area or question**. While these papers are not editorials intended primarily to promote a specific theory, method, or interpretation, thoughtful and analytical

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Submit a Paper

primarily to promote specific theories, methods, or interpretations, thoughtful and analytical perspectives are welcome. Advocacy is acceptable as long as alternative theories or interpretations are presented in a thorough and balanced way. Before writing a piece intended for the Syntheses and Perspectives section, potential authors are requested to contact the editors via the [journal office](#) with a proposal for the article, including a detailed outline and a description of its novel goals and perspective. Authors of successful proposals will be invited to submit their manuscript, which will then proceed as other submissions to the journal, with normal peer review, taking into account the specific aims of this section. Contributions should be no longer than a normal article in the journal. It is essential that proposed Syntheses and Perspectives be of broad interest to the conceptually oriented audience of the *American Naturalist*, which represents a cross-section of ecology, evolution, and behavior. Interested authors are strongly encouraged to read recently published Syntheses to get a sense of how some authors have successfully achieved the stated goals.

Natural History Miscellany

The *American Naturalist* published a section called "Natural History Miscellany" from 1867 to 1872. Short observations of behavior and ecology (what often is referred to as "natural history") remained a mainstay of the journal for many decades. Natural History Miscellany submissions should be short contributions (similar to a Note in length) that enlighten our understanding of the natural history of a species in important ways and, because of their novelty, will be appreciated broadly. They should also have significance beyond the biology of the species involved by their relevance to important conceptual issues or to understanding the dimensions of biological diversity. Authors are encouraged to illustrate manuscripts with online photographs, sound files, videos, and other electronic media.

Comments

Comments provide criticisms, corrections, or new analyses of recent articles published in the *American Naturalist*. They are not brief corrections. They should be concise and the tone should be professional. The authors should identify the article or group of articles being addressed on the cover page and in the author notes at submission. The author(s) of the critiqued article will be contacted and asked to respond. Comments should be submitted with brief abstracts (no more than 100 words). Replies should also be brief and professional. Comments will not be reviewed double blind since the Reply cannot be double blind.

E-Articles

The *American Naturalist* publishes several papers each month as e-articles. These papers provide affordable typeset color art for the authors. They are, in all other respects, identical to papers published in print: they appear in the print and online table of contents (with page numbers beginning with an "E," e.g., pp. E7-E13), they are indexed by Medline, Web of Science, and the other abstracting services that index the journal, and they can be downloaded as a typeset PDF file, the appearance of which is indistinguishable from PDFs of printed papers.

Symposium articles and **ASN Addresses** are by invitation only.

All accepted manuscripts (i.e., all of the types listed above plus the invited ASN symposia and the ASN Addresses) have been reviewed by external expert reviewers as well as members of the editorial board.

Errata/Corrections

Authors who wish to make corrections to their own published material should e-mail the journal office.

Author's Rights and Self-Archiving

For a full description of authors' rights and permissions, please see the Guidelines

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Supporting Data and Material

The *American Naturalist* requires authors to deposit the data associated with accepted papers in a public archive. For gene sequence data and phylogenetic trees, deposition in GenBank or TreeBASE, respectively, is required. There are many possible archives that may suit a particular data set, including the Dryad repository for ecological and evolutionary biology data (<http://datadryad.org>). All accession numbers for GenBank, TreeBASE, and Dryad must be included in accepted manuscripts before they go to Production. If the data are deposited somewhere else, please provide a link. If the data are culled from published literature, please deposit the collated data in Dryad for the convenience of your readers. Any impediments to data sharing should be brought to the attention of the editors at the time of submission so that appropriate arrangements can be worked out. For more, see [the editorial on data](#).

When you use a data set, be sure to cite it in your article using the DataCite DOI, and be sure the citation occurs in the literature cited section of your article as well as in the text. The data citation in the Literature Cited should include the name of the database, a record locator or descriptor, an access date, the URL, and the DOI if available.

Sequence Data

DNA should be sequenced on both strands. The sequences of all PCR primers used should be clearly stated either in the text or in cited references. Variation inferred from cloned allelic sequences should



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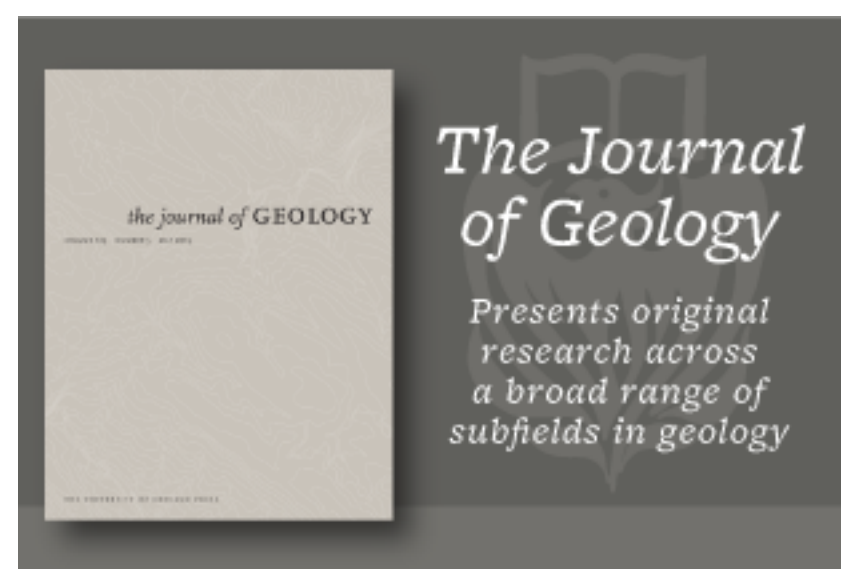
Forthcoming Papers

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consider polymerase error and in vitro recombination. All new nucleotide sequence data must be submitted to Genbank or EMBL.

Computer Programs

As part of the journal's evolving initiative to provide electronic access to important scientific resources, authors of papers that make significant use of nonproprietary computer simulation programs are encouraged to include the computer code as an online enhancement. Similarly, authors of papers that use symbolic mathematical computer calculations (via Mathematica, MatLab, Maple, or similar tools) are encouraged to include files with these calculations as electronic enhancements (see section below).

Methods Appendixes

Detailed descriptions of methods that are standard in their fields should be online-only appendixes, which will be edited and typeset for preservation.

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Ethical Treatment of Animals

If animals were used in the research presented in a manuscript, the authors must affirm in the submission process that (1) all research presented in the manuscript was conducted in accordance with all applicable laws and rules set forth by their governments and institutions and (2) all necessary permits were in hand when the research was conducted. Furthermore, authors are encouraged to consult the [Guidelines for the Treatment of Animals in Behavioral Research and Teaching](#) from the Animal Behavior Society.

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Manuscript Preparation for Submission

Preprints

Earlier versions of papers can appear as preprints on noncommercial discipline-specific repositories (such as arXiv or BioRxiv). Preprints on commercial repositories or repositories with publications attached (such as PeerJ) are not allowed. If the preprint on the noncommercial repository has been posted with a CC license, that license must be noncommercial (CC-BY-NC or NC plus further restrictions) or have no license. If a preprint has been posted on the noncommercial repository with a commercial license (CC-BY with no restrictions), then any subsequent publication in the *American Naturalist* must have the commercial CC-BY license and the authors must pay the Article Processing Charges (see below). Articles that have been formally reviewed, revised, and accepted by the editors of preprint overlay journals (e.g., Peer Communities In) are published in their final form and are not eligible for submission to the journal.

Manuscripts must meet the following formatting before review:

- **All elements of the manuscript must be double spaced.**
- **All manuscripts under review must include line numbering to assist reviewers and must have page numbers on all pages.**
- **Fonts for math must be embedded in the PDF.**
- **Citations must be in an author/year format (not numbered).**
- **E-mail addresses and affiliations for every author must be provided during submission in the peer review system.**

Methods should be described before the corresponding results. Very technical details of methods may be elaborated in online-only appendixes, which will be edited and typeset for preservation.

Although the *American Naturalist* does not require any other specific formatting for review, in our experience, reviewers' opinion about a manuscript can be skewed by careless formatting. Consequently, we strongly encourage authors to pay attention to the following guidelines. If a manuscript is accepted, the journal office will contact authors about changes in format to prepare the manuscript for production.

To assist reviewers, the first page of the manuscript file should be a title page that includes the title; a list of **four to six keywords**; the number of words in the text, and a list of all the elements of the manuscript that will appear in the expanded online edition (so reviewers will not miss essential elements). The title page should indicate whether the manuscript is an article, note, synthesis, natural history miscellany, comment, reply, or symposium (invited) article.

Double Blind Review: In an effort to minimize implicit bias, the *American Naturalist* now follows a form of double blind reviewing (for more on this policy, see <http://comments.amnat.org/2014/12/am-nat-goes-double-blind-in-new-year.html>). Author names have been redacted throughout the peer review system. Author names, affiliations, and email addresses must not appear on the title page or in headers and footers. The *American Naturalist* regards double blind review as a service to authors; authors are therefore best suited to judge what is desirable and necessary to maintain their anonymity. Some areas to consider are the following:

- Many acknowledgments include identifying information and should be removed from the

many acknowledgments include identifying information and should be removed from the manuscript file. Acknowledgments for double blind manuscripts should instead be pasted in the Comments field of the submission interface.

- An author who has files on external locations such as GitHub, figshare, and personal webpages that reveal the author's name may substitute the phrase "(links are available from the journal office)" so that these identifiers can be removed from the file. Place the links in the Comments section during the submission process. If a reviewer is interested enough to pursue the actual code then the hurdle of unconscious bias will have been cleared.
- References to previously published work should be in the third person.

Authors may opt out of double blind reviewing during submission. In that case, the title page may include author names, affiliations, and email addresses, but it must also include this statement, "The authors wish to be identified to the reviewers."

LaTeX: A LaTeX template for the *American Naturalist* is available [here](#).

If you need to add line numbering, LaTeX users have recommended using the `lineno` package (`lineno.sty`, available from CTAN) to add line numbering. Include

```
\usepackage{lineno}
```

in the preamble of your TeX file, and put the following commands after the title page:

```
\linenumbers
```

```
\modulolinenumbers[2]
```

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File Format

Authors should submit papers via the Editorial Manager system at <http://amnat.edmgr.com>.

Production criteria require source files to be in Word, RTF, or LaTeX, but the review process is conducted entirely via PDF. The Editorial Manager system is designed to convert source files into PDF.

Authors can also provide their own PDF files, which can have figures and tables in the run of text.

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Author Notes/Cover Letters

When submitting a manuscript, you will be asked the following:

- whether the manuscript appears on the Web (particularly in preprint archives), This is to locate any problems with iThenticate or with version confusion.
- whether the authors wish to opt out of double blind review (be identified to the reviewers by listing author names on the title page).
- whether the authors have agreed with the [data sharing policy](#),
- which associate editors seem most appropriate to handle the manuscript (see list here <http://www.amnat.org/an/EdBd.html>).
- number of words in the main text (excluding abstract, figure legends, tables, and literature cited)

In the Comments field, please explain how this manuscript fits the goals of the journal or the specific section of the journal. The *American Naturalist* aims to publish papers that

- are of interest to the broad readership,
- pose a new and significant problem or introduce a novel subject,
- change the way people think about the topic of the manuscript, and/or
- confirm or refute an unverified theoretical principle or a previously unsupported or weakly supported generalization.

Authors of revisions and resubmissions must provide a detailed response to the reviews and recommendations in a cover letter. This file can be read by the editorial board and by any reviewers assigned to the later version(s). All other submissions should use the Comments field and not upload a cover letter. Please submit your revision file with comments and track changes turned off. If you wish to **also** include a track changes version, attach it as file type "Other."

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Titles:

Titles should be clear, concise, and descriptive. There is some evidence that the most effective length is around 8 to 10 words. We do not impose limits on titles but strongly prefer titles that are to the point. A separate short title (a running head) of no more than 40 characters and spaces is required at submission.

Hints: Some search engines weight the keywords and key phrases in titles more than any other words in the article, so make sure that your title includes the most important terms of your manuscript. Think of the search terms and phrases that you use when working on this topic. Clever or dramatic titles can crowd out the most useful search terms. In addition, clever titles often require a culturally specific context to be understood and can put off or confuse readers so are best used with caution. Many search engines also weight the keywords and phrases that appear in the abstract more heavily when ranking a manuscript for relevance. The abstract is the point at which the reviewer, and later your

submitting a manuscript for review. The abstract is the point at which the reviewer, and later, your reader, decides to click through to the article itself.

Abstracts

Major articles, syntheses and perspectives, and symposium papers have abstracts no longer than 200 words. Notes and Natural History Miscellany notes have abstracts no longer than 150 words. Comments and replies have abstracts no longer than 100 words. We encourage authors to upload secondary abstracts translated into the languages relevant to the areas in which research was conducted. These secondary abstracts will appear with the online full-text versions of articles and on the abstracts pages, which are open and searchable to anyone. Please include a translation of the title as well. The abstract should be included on a separate page of the manuscript, with the word "Abstract" placed on its own line at the top of the page.

Journal Style

The *American Naturalist*, in general, conforms to the Chicago Manual of Style (16th edition) and the Council of Science Editors Manual Scientific Style and Format. When following journal style

- Provide both scientific and common names of all organisms discussed.
- Use either italics or underlining throughout equations and text. Do not use both in the same file.
- Do not use italics or bold for emphasis.
- Do not use indented lists (numbers or bullets).
- Use the International System of Units (SI) for all measurements.

Math

- Define every variable and label used at its first occurrence. A table of definitions can also be helpful.
- Fonts must be embedded in the PDF or substitutions will occur once the PDF is opened on other computers.
- Display formulas in Word should be done in the equation editor included with Microsoft Word.
- Check the PDF created in Editorial Manager carefully to make sure the math is formatted correctly.

References

- For the purpose of review, exact adherence to the journal reference style is not essential, as long as in-text citations include first author last names and year, and the full references include the article title. But, reviewers frequently comment when citations are poorly formatted, and this may lead them to conclude the work is careless. So, we recommend using the journal's standard reference style and carefully checking references before submission. In particular, authors who use citation managers to generate reference lists automatically should still check through their reference text to ensure the citations are accurate and complete.
- List in-text citations chronologically, then alphabetically for the same year.
- Cite unpublished work as "A. B. Smith and C. D. Jones, unpublished data" or "E. F. Smith and G. H. Jones, unpublished manuscript." "In review" manuscripts should be referred to as unpublished manuscripts in text and not listed in the literature cited.
- Spell out all journal and press names in the literature cited.
- Follow journal reference style. For example:

Hubbell, S. P., and R. B. Foster. 1986. Canopy gaps and the dynamics of a Neotropical forest. Pages 77-96 in M. J. Crawley, ed. *Plant ecology*. Blackwell Scientific, Oxford.

Maynard Smith, J. 1966. Sympatric speciation. *American Naturalist* 100:637-650.

Appendixes

Appendixes, particularly methods appendixes, are edited and typeset with the manuscript, even if they are online only. Multiple appendixes will be combined into a single PDF.

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Tables

Tables for manuscripts should be embedded in the file or PDF unless they are large online-only data files that must appear in formats such as tab-delineated ASCII or Excel. In Word, tables must be in the table editor.

- Do not present the same information in both a table and a figure.
- Table titles must be short, concise, and descriptive. All other information should be placed in a table note.
- Table notes should appear after the table on the last page of the table.
- Print tables are numbered consecutively in the order in which they appear in the text. All print tables must be referred to in the text. There are no vertical or horizontal lines in the body of an *American Naturalist* table. There are no panels. There is no graphical representation of any kind. If a table must have a graphical aspect, then it should be renamed a figure.
- There are no vertical or horizontal lines in the body of an *American Naturalist* table. There are no panels. There is no graphical representation of any kind. If a table must have a graphical aspect, then it should be renamed a figure.
- A table has the same column headings throughout. If the column headings change, it is a new

- table with a new table number and a new table title.
- Sequences should be taxonomic with family headings or alphabetical by scientific name.
- Online edited and typeset tables should follow all the same rules.

For further instructions on formatting tables for production, see [Manuscript Preparation - Tables](#).

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Figures and Images

Figures and photographs for manuscripts under review must be embedded in the PDF before it can go out for review. If authors are not supplying their own PDF, Editorial Manager, the submission program, will combine figure and text files into a single PDF (figures will appear at the end of the file).

When creating a PDF for review, figures may be placed at the end of the manuscript or within the main text where the figure is first mentioned. Either way, the figure legend should whenever possible be placed on the same page as the figure to help reviewers. Informal surveys suggest reviewers prefer figures in-line.

FONTS MUST BE EMBEDDED IN THE PDF. If fonts are not embedded, other fonts can get substituted or fonts can be eliminated altogether. When that happens math and figures in particular can become unintelligible.

- Do not present the same information in both a table and a figure.
- Label panels with capital letters and refer to them in text as "figure 2 A," etc.
- Confine all the panels of the same figure to the same page.
- All figures must be referred to in the text. Number all print figures cited in the text consecutively. If a figure is cited only in an appendix, then the figure is labeled accordingly (e.g., a figure cited only in appendix B would be labeled "figure B1").
- Color art, reproduced with inks, must be printed in four colors (CMYK). Online figures, reproduced with light, appear in three colors (RGB). There can be a color shift as much as 15% between the two formats. Authors should check their graphics in the correct mode before finalizing the color scheme. In particular, the bright blue in RGB becomes a dull blue in CMYK.

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Electronic Enhancements

The online edition of articles will include all elements of the print edition. The online edition may also be expanded to include additional appendixes, tables, figures, and electronic enhancements. **No changes to text, figures, or enhancement files will be made after the manuscript is published electronically.**

In addition to the appendixes, figures, and tables discussed above, enhancements may be material that cannot be typeset:

Short audio files—in WAV, MP3, or AIFF format

Video files—in MPEG or Quicktime format under three minutes (no streaming video). Provide a screenshot plus a caption for printing and linking to videos

Computer simulation programs or symbolic mathematical computer calculations (via Mathematica, MatLab, Maple, or similar tools)

Tar and zip files—Compressed formats should be e-mailed directly to the journal office because the web system unzips them. Please mention them prominently on the title page of the manuscript.

Other enhancement formats can be handled on a case-by-case basis. All online enhancements must have the approval of the editor.

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Publication Charges

There are two options for publication charges: Itemized Charges (for lower costs and ASN grants) or Article Processing Charges (for funder-required CC-BY open access). **An author with an outstanding debt from a previous paper cannot publish another until the original debt is settled.**

Option One: Itemized Publication Charges

Itemized Page Charges

\$75 per page

Itemized Supplementary Material

ASN Member: \$55 for every 6 manuscript pages in online-only appendixes that are edited and typeset for preservation.

Nonmember: \$65 for every 6 manuscript pages in online-only appendixes that are edited and typeset for preservation.

There is no charge for supplementary material that doesn't require long-term preservation or for files that cannot fit into standard typesetting.

The ASN covers the costs of Dryad deposits for all authors.

Itemized Printed Color Art

\$100 a page

E-articles have no extra charges for color art typeset in the PDF. PDFs of print articles are exactly the same as print.

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Nonmember from a subscribing institution: \$1,500

Nonmember: \$2,500

ASN Grant for Itemized Charges

The American Society of Naturalists will make a grant-in-need (or a partial grant) to help cover the costs of page charges and supplementary material charges, if none of the authors have funding for page charges, if one of the authors is a member of the ASN, and if the ASN member has not had a grant-in-need in the previous 12 months. Grants-in-need are a benefit of membership in the ASN. Grants do not cover color printing or open access charges. Color can be typeset at no cost in E-Articles.

Option Two: Article Processing Charges (Apc) For CC-BY Open Access

Funders mandate that CC-BY open access comes with a flat-rate APC (which includes all costs).

ASN Member (\$3000)

ASN Member with color printing for print articles (\$3300)

Nonmember (\$4000)

Nonmember with color printing for print articles (\$4300)

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Maximizing the Effect of Titles and Abstracts

Some search engines weight the keywords and key phrases in titles more than any other words in the article, so make sure that your title includes the most important terms of your manuscript. Think of the search terms and phrases that you use when working on this topic. Clever or dramatic titles can crowd out the most useful search terms--and can occasionally put off a reader--so are best used with caution.

Many search engines also weight the keywords and phrases that appear in the abstract more heavily when ranking a manuscript for relevance. The abstract is the point at which the reader decides to click through the search engine to the article itself, so a well-written abstract that is specific to the manuscript and focused on the main points is more likely to attract readers (and reviewers).

Google Scholar seems to look for the number of times the search term/keyword has been repeated in the body of the text. Make sure an essential search term for your article is used more than once.

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