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**General Journal Style Notes**

* Paleobiology generally follows The Chicago Manual of Style, available on-line at: [http://www.chicagomanualofstyle.org/home.html](https://url.avanan.click/v2/r02/___http%3A//www.chicagomanualofstyle.org/home.html___.YXAxZTpjYW1icmlkZ2Vvcmc6YTpvOjg5OTYzMjIzZDZmODk3OTQyMGE5MmQ1MDVlYWFjYzMxOjc6MjM0NTowMjY2MDI3NjA4MDMwZmRjYzk0ZmUxMjZhMDFjNGFmODJlY2Y4NTMzZTU1OGZkOTJlOGIzODk2MzI0YjMyM2JhOnA6VDpG).
* For geologic time, follow the International Commission on Stratigraphy time chart [https://stratigraphy.org/chart](https://url.avanan.click/v2/r02/___https%3A//stratigraphy.org/chart___.YXAxZTpjYW1icmlkZ2Vvcmc6YTpvOjg5OTYzMjIzZDZmODk3OTQyMGE5MmQ1MDVlYWFjYzMxOjc6NDUzZjo2Y2JhNmMzNzFmOGVkMzA2N2QzMjhkOGRlYmQwYjEwMTZjMmUzMzg4MTNkYjY0YzkzZTNlNjkyNjg5NTk1NDczOnA6VDpG).
* For conventions for stratigraphic terms, follow the International Commission on Stratigraphy Guide [https://stratigraphy.org/guide](https://url.avanan.click/v2/r02/___https%3A//stratigraphy.org/guide___.YXAxZTpjYW1icmlkZ2Vvcmc6YTpvOjg5OTYzMjIzZDZmODk3OTQyMGE5MmQ1MDVlYWFjYzMxOjc6ZDY1NDoxZjU3MzRkNzE0OGRhYjlhMWE2ZWZhYzFmNjdiNWQ4NWMzNTgwN2JjMjdmMjcyNDY3NDdlOWIwZWU3YWRmM2JjOnA6VDpG).
* Names of genera and species must be italicized except where italics are normally required (e.g., secondary headings).
* Latin phrases are not italicized: a priori; gen. et sp. nov.; incertae sedis; in vivo; in vitro; M. supracoracoideus anterior; nomen dubium; per se; sensu; sensu lato; sensu stricto.
* Pay particular attention to italics in equations and variables: binomial probability (*p*) and other mathematical variables, statistical test names (*t*-test; *F*-test), etc.
* Use double quotes for all actual quotations as well as for terms or connotations: “true fossil record” versus sampled fossil record.
* Always provide the page number for quotations: …as noted by Wilson (1977: p. 23).
* Do not use an apostrophe with numbers or acronyms: 1920s not 1920’s; NALMAs not NALMA’s.
* Commas and periods are placed inside quotation marks; semicolons are placed outside.
* e.g. and i.e. are followed by a comma.
* In a numbered series in running text, place numbers within parentheses; e.g., Explanations for this pattern include (1) high rainfall, (2) low temperature, and (3) increased predation.
* No underlining in the text.

**Geologic Time**

* Time periods and stratigraphic terms follow ICS style (link given above).
* Use upper, middle, and lower for rock or time-stratigraphic units (example: Navesink Formation, upper Navesink Formation).
* Use late and early to refer to time units, and only capitalize Early, Middle, Late for formally recognized ICS time periods (e.g., Early Cretaceous, early Miocene).
* Use a slash (/) to denote boundaries, and an en-dash (–) to denote time ranges. (K/T boundary; Eocene–Oligocene mammals).
* Be sure to differentiate between geologic dates and duration of time. Use the abbreviations Ga, Ma, and ka to indicate dates (billions, millions, and thousands of years before the present, respectively). Use Gyr, Myr, and kyr to indicate duration of time.

 Gyr (duration of time) Ga (billions of years ago)

 Myr Ma (millions of years ago)

 kyr ka (thousands of years ago)

**Numerals, Statistics, and Mathematical Equations**

* Spell out numbers one to ten unless used with units of measurement. Use Arabic numerals for numbers over 10 and for non-integers. Use 10-4, 10-5, etc. for numbers less than 0.001.
* Use commas for numbers greater than 9999.
* Use italics where necessary. Indicate any italicized parts that may not be obvious with a highlight and comment.
* Mathematical variables are generally italicized.
* Greek characters are in normal font, not italics.
* For probability, use lowercase italic *p*. For example, *p* < 0.001 or *p* = 5 .10-10.
* Use metric units. If non-metric units are required, provide the metric equivalents also. m, meter; mm, millimeter; km, kilometer; μm, micron (not μ), micron or micrometer if spelled out; l, liter; ml, milliliter; g, gram (not gm); kg, kilogram; mg, milligram. Separate the unit from the numerical quantity by a space (e.g., 3.2 m, 0.5 g).
* If it is necessary to use mathematical symbols (e.g., +, <, =), separate with spaces before and after (e.g., CI = 0.63).
* Use a zero before decimals if the number is less than one (e.g., *p* < 0.05, not *p* < .05).
* “Equation” is spelled out and lowercase except when a capital would ordinarily be required. It is abbreviated when used in a parenthetical reference to an equation. Equation numbers are in parentheses, unless they appear in a parenthetical phrase.

 Examples: Equation (6) shows the results . . .

 (Raup 1978: p. 23, eq. 2).

 We refer to equation (2) in the next section . . .

* Mathematical expressions and equations set out from the text should be written so that they can be set on one line, if possible.
* Numbered equations should be centered on the line. Equation numbers should be on the right margin of the text, with the numbers enclosed in parentheses.
* Identify ambiguous characters; e.g., lower-case letter l versus numeral one, capital letter O versus numeral zero, lowercase Greek chi versus lowercase letter x versus the multiplication symbol.
* Use fractional exponents instead of root signs and the solidus (/) for fractions where possible.
* Use ca. with approximate dates. For approximations with numerals, use a tilde (~30%) or spell out (approximately ten years).

**Formatting a *Paleobiology* Manuscript**

Organize the manuscript in the following order: title page, abstract page, text, Acknowledgements, Competing Interests, Literature Cited, appendix, figure captions, table captions. Please refer to Article Types under ‘Preparing your materials’ on the journal website for guidance on recommended word counts, pages and figures. All supplemental data need to be reposited online (see the Supplemental Data section below).

* Double-space the entire manuscript in 12-point Times New Roman type. This includes text, abstracts, Literature Cited, figure captions, and appendices (except those in table format).
* Number all pages of the text beginning with the title page. In Microsoft Word, options for page numbering can be found by going to **Document** (under the **Format** menu) and choosing **Layout**.
* Number all lines of the text beginning with the title page. In Microsoft Word, options for line numbering can be found by going to Page Layout; Line Numbers and Continuous.
* Use a one-inch margin on all sides of the pages.
* Use settings for US Letter (8.5 x 11 inch or 21.5 by 28 cm) paper.
* Do not use right or full justification for text.
* Do not break or hyphenate words at the right margin.

**Title Page**

* The first page of the manuscript must include the title, authors list, author affiliations, and running headers (left and right).
* The title appears in boldface. Capitalize only the first word and any proper names. Do not end the title with a period.
* Full names of authors are placed below the title in capital and lowercase letters. Follow each name with the number of their affiliation in superscript. Corresponding author names should be followed by an asterisk (e.g., James E. Smith1\*, Toby Jones1, 2, and C. Alston Chase2).
* Author affiliations are placed below the author list. Each different affiliation should be numbered sequentially in superscript.
* Do not use abbreviations (e.g., Dept., Ave., P.O.).
* Include the e-mail address for the corresponding author(s). Email addresses for non-corresponding authors are welcome but are not required.
* If an author has recently moved to a different address, please include the present address.

Example:

1Department of Geology, Utah State University, Logan, Utah 84322 U.S.A. Email: example@gmail.com.

2Department of Geology, University of California, Davis, California 95616 U.S.A. E-mail: iml@ucd.edu. Present address: Department of Biology, Yale University, New Haven, Connecticut 06520 U.S.A. example@email.edu

* Edited manuscripts and proofs will be sent to the present address of the corresponding author unless the office is otherwise notified.
* The running headers are below the authors' names. Running headers are not to exceed a total of 50 characters and spaces, and all letters are capitalized. The right running header (RRH) is the running title and the left running header (LRH) is the name or names of the authors. Use et al. for more than two authors.

Examples:

RRH: ONSHORE-OFFSHORE FAUNAL CHANGE

LRH: JOHANN S. BACH

LRH: DANA A. JOHNSON AND MICHELLE R. JOHNSON

LRH: RONAELE M. NOVOTNY ET AL.

**Abstract Page**

* A non-technical summary and abstract must be provided in that order, and neither should be longer than 300 words.
* The non-technical summary and abstract should be on their own page(s) separate from the Title Page and separated from each other by a blank line.
* The non-technical abstract must be understandable to a wide audience of non-experts. Avoid complex terminology and use language generally understood by educated non-paleontologists.
* “Non-technical Summary” and “Abstract” are boldface with the following text on the line below. All lines are flush left.

**Text Headings**

There are three types of headings:

**This is a Primary Heading**

Primary headings are centered and in boldface. The first word and all other important words in the heading are capitalized. Articles, conjunctions, and prepositions are in lowercase.

***This is a Secondary Heading***

Secondary headings are bold, italicized, capitalized the same as primary headings, and are flush with the left margin. The text begins on the next line.

***This is a Tertiary Heading***. Tertiary headings are capitalized the same as primary headings, bold, italicized, and followed by a period. The text follows on the same line.

**Boxes** *<optional>*

Boxes are used to explore a concept in more depth than necessary in the main text, or a short case study that can be separated from the main text.

* Box heading should be in bold and capitalized the same as primary headings. (max 50 characters)
* These should not exceed more than 150 words (excluding box heading).
* Boxes should support the main text but make sense as stand alone text.
* All boxes should be cited in text in the correct order.
* Boxes should follow the same guidelines as figure requirements at acceptance (i.e. submitted as an image file (.eps, .tiff, .png etc)

**In-Text Literature Citations**

* A one-to-one correspondence must exist between works cited in the text and listed in the Literature Cited section.
* Do not use a comma between the author and the date.
* Literature is cited in the text in chronological order by the last name of the author or authors and the date of publication.
* For works with three or more authors, the last name of the lead author is followed by et al.
* Use semicolons to separate multiple citations by different authors; use commas to separate multiple citations by the same author.
* Specific pages, tables, or figures within a reference should be lowercase and follow a colon after the reference year.
* Provide a date (year) and initials plus surname for all personal communications.
* Provide page numbers for quotations.
* Books or manuscripts in press may be included; if possible, include the anticipated year of publication.
* Unpublished manuscripts or manuscripts in review should not be cited.
* Avoid citing unpublished theses or dissertations.
* Authors are responsible for the accuracy of all citations.
* If nested parentheses are necessary, use brackets inside parentheses and braces inside brackets ([{}]). Note that the order is the reverse for equations {[()]}.

Examples of in-text citations: (Jones [1968] indicated . . .); (Darwin 1859) (McCalpin et al. 1987: Fig. 2) (Darwin 1859; McCalpin et al. 1987, 1989: pp. 22–24) (Novotny and Borders 1988: p. 123) (Greenwell in press) (J. Johnson personal communication 1989) (J. Jones and T. Freeman unpublished data)

**In-Text Figure and Table References**

* “Figure” is capitalized and spelled out in running text, but abbreviated in parentheses. Figure parts are capitalized.

Examples: In Figure 15, we see….; (Fig. 2); (Novotny 1968: Fig. 4); (Fig. 3A).

* “Table” and “Appendix” have an initial capital and are not abbreviated. If there is only one Appendix, it is not numbered.

Examples: (Borders and Greenwell 1972: Table 1); (Table 2, Fig. 3)

* Do not use figure call outs. Figures and tables will be placed near where they are referenced in the text.

**Acknowledgments**

* Spell out all agency and university names.
* Do not use honorifics such as Dr., Prof., Mrs., etc.
* Use initials with spaces for given and middle names of individuals. Initials of given names should come before surnames.

**Author Contributions**

Briefly summarize the individual contributions of each author, such as for analyses performed, interpretation of data, and/or writing drafts of the manuscript. As with the Acknowledgments, do not use honorifics and use initials instead of given names. See CRediT ([https://credit.niso.org](https://url.avanan.click/v2/r02/___https%3A//credit.niso.org___.YXAxZTpjYW1icmlkZ2Vvcmc6YTpvOjg5OTYzMjIzZDZmODk3OTQyMGE5MmQ1MDVlYWFjYzMxOjc6ZGI1YTpjMWIwOTNjNzFkYzUyOTg3ZjBkOGUwZTM1Y2UzMjEzZWVlODhhNDRlMjA1MDJlNzc5ODkzMGRjZDVkYjMwZTg3OnA6VDpG)) for guidance on contributor taxonomy.

**Competing Interests**

All authors must include a competing interest statement in their manuscript. Competing interests are situations that could be perceived to exert an undue influence on the content or publication of an author’s work. These may include, but are not limited to, financial, professional, contractual or personal relationships or situations whose association may have impacted the results of the study. They are not the same thing as a conflict of interest.

* Statement must be relevant to all contributing authors.
* Should be written in the format of "A. B. Smith is employed at company C, and D. E. Johnson received grant funding from company F."
* If no competing interests exist, write "the author/authors declare none".

**Data Availability Statement**

Additional supporting data that are too extensive or not in an appropriate format for publication in *Paleobiolog*y (e.g., movies, computer programs, databases) must be submitted as supplementary material. This material may include data (particularly long tables of raw data), tables, figures, appendices, or program code, and will be reviewed along with the rest of the manuscript. Accepted papers with supplementary material must include a Data Availability Statement.

* Files are titled and referred to in the manuscript in sequence as Supplementary Table 1, Supplementary Table 2, etc. or Supplementary Figure 1, Supplementary Figure 2, etc.
* Supplementary files must be uploaded to a permanent online repository, such as Dryad ([http://datadryad.org](https://url.avanan.click/v2/r02/___http%3A//datadryad.org___.YXAxZTpjYW1icmlkZ2Vvcmc6YTpvOjg5OTYzMjIzZDZmODk3OTQyMGE5MmQ1MDVlYWFjYzMxOjc6ZjRhNjpmMTlmNjZiOWMzMzM3Mzc3YzA2YjJkM2YwZjU3OWM1MGQ4ZTViM2JmMjBkODZjNWNmMjA4NTA2NTJiZDM3ZWRmOnA6VDpG)) or Zenodo ([https://zenodo.org](https://url.avanan.click/v2/r02/___https%3A//zenodo.org___.YXAxZTpjYW1icmlkZ2Vvcmc6YTpvOjg5OTYzMjIzZDZmODk3OTQyMGE5MmQ1MDVlYWFjYzMxOjc6ZGJlYTozOWI1MzQ1YmY5OTgzMDY3Y2EwM2QwZjc1ZTE5ZjRmOWZjNTM2NzJjMTE2NjQzYzRlNDI4MjE4YWE1NGZlNzY5OnA6VDpG)). Use of Dryad and Zenodo is paid for by *Paleobiology* and is no cost to authors.
* Reference to the repository and the doi for the material must be included in this section (example: Data available from the Dryad Digital Repository: [https://doi.org/10.5062/dryad.411hq](https://url.avanan.click/v2/r02/___https%3A//doi.org/10.5062/dryad.411hq___.YXAxZTpjYW1icmlkZ2Vvcmc6YTpvOjg5OTYzMjIzZDZmODk3OTQyMGE5MmQ1MDVlYWFjYzMxOjc6ZWQyYTowMDI1OGViYTZlM2FlNGVlYWQ5ZTRkYjk2MThiYjJhZmYwMmFmZmE4NDNiNDNjMTljZDk2MGNjY2JmNjhkNzMyOnA6VDpG)).
* References within the Supplementary Material must not be included in the main Literature Cited section.

**Literature Cited**

EndNote has created an output style for *Paleobiolog*y to assist in formatting references. It is available for download from the Endnote website, [http://www.endnote.com/support/enstyles.asp](https://url.avanan.click/v2/r02/___http%3A//www.endnote.com/support/enstyles.asp___.YXAxZTpjYW1icmlkZ2Vvcmc6YTpvOjg5OTYzMjIzZDZmODk3OTQyMGE5MmQ1MDVlYWFjYzMxOjc6YTkwMzpjZDQ3ZjBkYzczMTRmNzA2MWUzNWMxZTM0YmY5MWZkMDUzYmUxYWQ5YzAxMmUwYThhNmZmZDBmMzM5ZGRhNGI3OnA6VDpG).

**DO NOT use Cite-While-You-Write in the final submitted manuscript file.**

* All works cited in the text, tables, figure captions, and appendices must be included in the Literature Cited section. Works cited in Supplementary Material must not be included here.
* Entries in the Literature Cited section (including Mac and Mc) are listed in strict alphabetical order, except in cases of three or more authors.
* For citations with the same lead author, group all single-author citations in chronological order; then group all two-author citations alphabetically first, then chronologically; and group all citations with three or more authors in chronological order only.
* For works published in the same year by the same author(s), the works are listed in alphabetical order, or in date order if this is obvious (e.g., consecutive articles in a journal or articles numbered I and II). To differentiate articles published in the same year by the same author(s), a lowercase letter follows the date.
* Do not use tabs to indent subsequent lines. Use the Hanging Indent function.
* The names of authors are boldface and in capital and lowercase letters. Author initials are separated by a space. Except for the first author, initials come before the surname. For articles in an edited volume, editors' initials precede surnames.
* Italicize *In* or *in* for citations in a book. (See examples below.)
* Italicize and do not abbreviate the names of publications (journals, series).
* Bold volume numbers.
* Subtitles of articles or books are not capitalized after the colon.
* If three or more chapters of a book are cited, cite the book separately, and use an abbreviated citation of the book in the reference for the chapter.

Examples:

**Alloy, C.** 1976. Pp. 1–16 *in* Olmstead et al. 1976.

**Beryl, A.** 1976. Pp. 17–40 *in* Olmstead et al. 1976.

**Chrome, W.** 1976. Pp. 40–66 *in* Olmstead et al. 1976.

**Olmstead et al.** 1976.

**Smith, J. L.** 1989a.

**Smith, J. L.** 1989b.

**Smith, J. L., and J. P. Jones.** 1983.

**Smith, J. L., and T. Thompson.** 1978.

**Smith, J. L., T. Freeman, and J. P. Jones.** 1977.

**Smith, J. L., J. P. Barton, and T. Freeman.** 1978.

**Smith, J. L., C. A. Allen, and T. Freeman, eds.** 1980.

**Publisher citations:**

* Abbreviate names of publishers. Blackwell Scientific is an abbreviated form; Blackwell is the abbreviated form for Blackwell Publishing. Use Springer, **not** Springer-Verlag.
* Usually delete “Press” except for University presses and the publisher Academic Press.
* If necessary, retain initials to distinguish among publishers: e.g., W. H. Freeman; J. Murray (Darwin's publisher).
* States are omitted if the city is large and well known or if the state name is part of the publisher's name. Traditional abbreviations of state names are used, not postal codes. Examples: Boston; Springfield, Mass.; University of Wisconsin Press, Madison; Marshfield, Wisc.
* Include country names, if needed, for location of publisher, e.g., Wiley, Chichester, U.K.

**Journal article:**

* Use Title case for article title. (Note: there is no space after the colon before the page range.)

**Storm, E. C.** 1974. Omnology at the crossroads. *Journal of Omnology* **22**:1–44.

**Article in a serial publication or a special publication with a volume citation (treat as if a journal):**

* Use Title case for article title. Italicize “*in*”

**Foote, M. 2001.** Origination and extinction components of taxonomic diversity: general problems. *In* D. H. Erwin and S. L. Wing, eds. Deep time: *Paleobiology*'s perspective. *Paleobiology* **26** (Suppl. to No. 4):12–26.

**Smithson, A. B.** 1995. Gymnosperm envy. *In* C. D. Jones, ed. Advances in angiosperm psychology. *Short Courses in Paleontology* **6**:23–45. Paleontological Society, Knoxville, Tenn.

**Article in a serial publication without a volume citation (treat as if in a book):**

* Use Title case for article title. Italicize “*in*”

**Smithson, A. B.** 1995. Gymnosperm envy. Pp. 23–45 *in* C. D. Jones, ed. Advances in angiosperm psychology. Proceedings of the 24th international symposium on fossil plants. Geological Society of America, Boulder, Colo.

**Book:**

* Use title case.

**Calm, I. M.** 1974. Omnology has passed its peak. University of Chicago Press, Chicago.

**Article in a book:**

* Note order of editors’ initials and names.

**Storm, E. C. 1974.** Whither goest omnology? Pp. 33–44 *in* I. M. Calm and U. R. Nott, eds.

**Special example: Citing the Treatise on Invertebrate Paleontology:**

**Arkell, W. J., B. Kummel, and C. W. Wright.** 1957. Mesozoic Ammonoidea. Pp. L80–L465 *in* W. J. Arkell et al. Mollusca 4, Cephalopoda, Ammonoidea. Part L of R. C. Moore, ed. Treatise on invertebrate paleontology. Geological Society of America, New York, and University of Kansas, Lawrence. [Note that later parts are published in Boulder, Colo.].

**Tables**

* Tables should be in editable file formats, such as Excel or Word; if using Word, use the “create table” option rather than tab-and-space.
* Tables can include color or shades of gray.
* Table captions are placed directly above the table and on the same page.
* Do not use parentheses around reference dates in the body of a table.
* Do not use vertical headings or vertical borders.

**Figures**

* Follow instructions for preparing digital art following the journal Figure Guidelines.
* Do not embed figures in the text file.
* Submit all figures as individual figure files.
* Use capital letters to label figure parts.
* In the caption, bold the subfigure reference and follow it with a comma if it starts a sentence, and use parentheses if it’s in the middle of a sentence (examples: B, scatter plot of the data…, Scatter plot of the data (B) shows…).
* All parts of a single figure should be on one page as you want them to appear. If necessary, figures with many figure parts can be organized for printing on two facing pages.
* When including text in a figure, use upper and lower case letters (rather than all uppercase), a sans serif font (e.g., Ariel, Helvetica, etc.), and do not use boldface lettering. The final size (after reduction and enlargement) of lettering in figures should be no less than font size 8.
* To ensure that published figures will look the same as submitted artwork, the fonts must be embedded in the file. When saving or exporting figures into TIF or EPS format, look for settings that will embed the fonts.
* For accepted papers, specify in the file name whether the figure should be one-column, two-column, or full-page.
* Specify if full-page figures should be set in landscape orientation.

**Final submission for Production**

* Your submission will be checked to ensure that your final files are correct and ready to be used for production of your article.
* Before your article will be placed into the Production queue, you will need to complete and upload an author agreement which will be generated after the paper is in Production.
* If you have Supplementary Materials, the doi from Dryad, Zenodo, or another repository must work and be provided in the Data Availability Statement section. **Do not** include the private or peer reviewed doi.