***Science* Manuscript Template Instructions**

**General instructions on using this template and submitting a manuscript to *Science*:** Thank you for preparing a manuscript for submission to *Science*. Using this template, or following the guidelines below, will help us in processing your paper and completing the manuscript’s record in our system. Our goal is to automatically identify each section of your manuscript so that we can accurately extract title, authors, abstract, etc. and to enrich it by including reference links and an accurate layout.

Please use the actual template, which starts on page 2. When you are ready to submit, please delete the text on this cover page.

You can submit your paper at <https://cts.sciencemag.org>. Additional information for authors is available at <https://www.science.org/content/page/science-information-authors>.

If you are using LaTeX, please convert your paper into a Word .docx file. If this is not possible, please use our LaTeX template (available [here](http://www.sciencemag.org/authors/preparing-manuscripts-using-latex)) and upload a PDF version of your paper.

So that we can extract parts of your paper (even if you do not use this template), begin each section with the specific words listed below, some of which are followed by a colon. Do not use paragraph breaks in the title, author list, or abstract. The author list, corresponding author email(s), and affiliation(s) should be checked carefully because they will be published as listed in the manuscript.

**Title:** No more than 96 characters and spaces, lacking jargon and abbreviations where possible.

**Authors:**

**Affiliations:**

**Abstract:** 125 words or less.

**One Sentence Summary:** No more than 125 characters and spaces.

**Main Text:**

**References and Notes:** Only a single numbered list should be provided for all references cited in the main text and in the supplementary materials.

**Acknowledgments:** Split into general, Funding, Author contributions, Competing interests, and Data and materials availability, as described in the template below.

**Supplementary Materials:** Include a list, noting which references are only cited in the SM.

**Fig. #.** (Begin each figure caption with a label, “**Fig. 1.**”, for example, as a new paragraph.)

**Table #.** (Begin each table caption with a label “**Table 1.**”, for example, as a new paragraph.)

Please use the .docx format (all versions after Word 2007 for PC and Word 2011 for Mac) and include page numbers in your submitted file. We also encourage use of line numbers. Supplementary Materials (comprising Materials and Methods, figures, and tables) should be in a separate file.

More specific formatting instructions are provided in the template that follows.

Title: Extinct Pleistocene Carnivores Burned More Energy

**Authors:** Orlin S. Todorov1\*, John Alroy1

**Affiliations:**

1Macquarie University, School of Natural Sciences; Macquarie Park, Australia

\*Corresponding author. Email: orlin.s.todorov@mq.edu.au

**Abstract:** For the last half century, the most prominent/contentious debate in paleoecology has been over the causes of megafaunal extinctions at the end of the Pleistocene. Among others, it has been argued that extinct species tended to be larger and have smaller brains. Here we tested these hypotheses using a comprehensive data set of 19 ecological and life history traits on a sample of 116 living and 13 extinct species of Carnivores. We only find basal metabolic rate and diurnality to be robust predictors of extinction and this was confirmed through accounting for uncertainty and phylogenetic correction. Consequently, we show that living diurnal carnivores with high metabolic rates are more likely to be threatened, and address the implications for conservation.

The abstract should be 100-125 words and organized in this structure: an opening sentence that sets the question that you address and is comprehensible to the general reader, background content specific to this study, results, and a concluding sentence. It should be a single paragraph.

with multiple logistic regressions with and without phylogenetic correction.

**One-Sentence Summary:** Higher energy demand and day time activity, but not different brain or life history mark extinct and vulnerable Carnivores.

A brief teaser statement highlighting main result of the paper, understandable by a scientist not in your field, without jargon or abbreviations. This will appear online adjacent to the title and should not repeat phrases already present there. Please keep to under 125 characters and spaces.

**Main Text:** In general, this should include a brief (1-2 paragraph) introduction, followed by a statement of the specific scope of the study, followed by results and then interpretations. Please avoid statements of future work, claims of priority, and repetition of conclusions at the end.

Subheadings must be included in Research Articles and Reviews. These should be brief and preferably topic-specific. Each heading should be set off by a paragraph break. Up to three levels of subheadings may be used if warranted (bold for level one, bold and italic for level two, and italic for level three). Note that *Science* does not allow headings before the first paragraph of main text.

All figures and tables should be cited in order (as, for example, “Fig. 1” and “Table 1”), including those in the Supplementary Materials (which should be cited as, for example, “fig. S1” and “table S1”). You may include line or page breaks if you would like to place figures within the text near where they are referenced. Please do not place figures in text boxes.

References should be cited in parentheses with an italic number (*1*). Multiple reference citations are separated by commas (*2*, *3*) or, if a series, en dashes (*4–6*). References are cited in order by where they first are called out, through the text, text boxes, figure and table captions, reference notes and acknowledgments, and then the supplementary materials.

Equations can be included. For complex equations, use MathType (recommended) or the legacy equation editor in Word (choose Insert > Insert Object > Word Equation). Do not use the native Word 2007, 2008, 2010, or 2011 equation editor, because this may produce less reliable MathML, the online markup language we use, which may result in display errors. If you enter equations in simple LaTeX, check that they will convert accurately (Word 2007 and higher can convert simple LaTeX equations).

References and Notes

1. There is only one reference list per article, and it should include all references in the main text, figure and table captions, and Supplementary Materials. Do not include a second reference list in the Supplementary Materials. References only cited in the Supplementary Materials are not counted toward length guidelines.
2. Each reference should be on a separate line ending in a period. For a style guide, see <https://www.science.org/content/page/instructions-preparing-initial-manuscript#science-citation-style>.

Example: A. Person, B. Person, Article title: Then subheading. *Credible Journal* **#Volume**, #pg–#pg (#Year). doi:#here

1. You should include titles in references and full page ranges. Journal article titles will not be included in the print version of the paper but will be shown in the online version.
2. You can use an automatically numbered list in Word.
3. Each reference should have a separate number.
4. Please do not combine references and explanatory notes under the same reference number.
5. This reference is cited only in the supplementary materials, but it should be included here because the full list will appear online at the end of the main text.

**Acknowledgments:** Acknowledgments follow the references and notes list but are not numbered. Start with text that acknowledges non-author contributions and then complete each of the sections below as separate paragraphs.

**Funding:** Provide complete funding information, including grant numbers, complete funding agency names, and recipient’s initials. Each funding source should be listed in a separate paragraph.

Examples:

National Institutes of Health grant U12AB123456 (PV, CHO)

National Institutes of Health grant R01AB123456 (PV, GS)

William K. Bowes Jr Foundation (PV)

German Research Foundation grant AB 1234/1-1

Office of Biological and Environmental Research of the U.S. Department of Energy Atmospheric System Research Program Interagency Agreement grant DE-SC0000001

National Institute of Health Research UK

UK-China Research and Innovation Partnership Fund through the Met Office Climate Science for Service Partnership (CSSP) China as part of the Newton Fund

**Author contributions:** Each author’s contribution(s) to the paper should be listed [we encourage you to follow the [CRediT](https://credit.niso.org/) model]. Each CRediT role should have its own line, and there should not be any punctuation in the initials.

Examples:

Conceptualization: OST, JA

Methodology: OST, JA

Investigation: OST

Visualization: OST

Funding acquisition: JA

Project administration: OST

Supervision: JA

Writing – original draft: OST

Writing – review & editing: OST, JA

**Competing interests:** “Authors declare that they have no competing interests.”

**Data and materials availability:** All data, code, and materials used in the analysis is available on Dryad and on github at: www.github.com/orlinst/Carnivores-ext

Supplementary Materials

Materials and Methods

Supplementary Text

Figs. S1 to S#

Tables S1 to S#

References (*##*–*##*)

Movies S1 to S#

Audio S1 to S#

Data S1 to S#

**Fig. 1.** **The figure caption should begin with a short descriptive statement of the entire figure followed by additional text.** Captions should be immediately after each figure. The primary callout of each figure part is indicated with a bold capital letter enclosed in parentheses [e.g., (**A**)]. Additional callouts are indicated the same way, but without the bold format. If you prefer, you can place both figures and captions logically throughout the text near where they are cited rather than at the end of the file (but not both). If a paragraph in the main text begins with the name of a figure, write out “Figure” in full (e.g., <para>“Figure 1 shows….”)

**Fig. 2.** **You can place graphics in-line above each caption.** Please do not use text boxes to arrange figures. High-resolution (preferably editable PDF or Adobe Illustrator format) figure files will be requested following review.

**Table 1.** **Start this caption with a short description of your table.** Format tables using the Word Table commands and structures. Do not create tables using spaces or tab characters.

(Please delete before submission) Supplementary materials should be included in a separate file. We recommend using or following the [Microsoft Word template supplied here](https://www.science.org/admin/dopub/10.5555/page.2385607/files/science_supplementary_materials_word_template-2022.docx).