

## **GUIDE TO MANUSCRIPT PREPARATION FOR THE *CONTRIBUTIONS FROM THE MUSEUM OF PALEONTOLOGY, UNIVERSITY OF MICHIGAN*\***

The Museum of Paleontology publishes a regular series of research reports describing results of Museum field projects, as well as analytical and comparative interpretations of fossils in the Museum's collections. This series was initiated in 1924 under the name *Contributions from the Museum of Geology, University of Michigan*, being modified to its current name in 1928. The Museum of Paleontology also publishes an occasional series of monographs and thematically related papers in the *University of Michigan Papers on Paleontology*, which began in 1972. Museum of Paleontology publications are freely accessible at: <http://deepblue.lib.umich.edu/handle/2027.42/41251>. For more information, contact [paleopubs@umich.edu](mailto:paleopubs@umich.edu).

### **FORMATTING**

This document is meant to provide basic guidelines to formatting your manuscript for *Contributions or Papers*. If a particular case you have a question about is not covered by this document, please consult recent issues or contact the Editor ([wilsonja@umich.edu](mailto:wilsonja@umich.edu)). Use this document to guide organization of your manuscript. Formatting errors are not grounds for manuscript rejection, except in egregious cases.

The manuscript should include the following parts, in order and separated by page breaks: Title page, Abstract, Body, Acknowledgments, Literature Cited, Figure Legends, Tables. Illustrations are included as separate files, and their formatting requirements are covered in the second part of this document. Please submit your manuscript in any recent version of Word.

Please use 12-point font size and an easy-to-read font, preferably Times New Roman or Helvetica. Double space or 1.5 space the document and leave 1" margins. The right margin should not be justified. Avoid automatically formatted paragraph indents.

All references in Literature Cited must be cited in text, and vice versa. All figures and tables must be referenced in text and numbered in the order in which they appear (figures and tables have independent numbering).

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\* Text formatting guidelines written by Jeffrey A. Wilson (Editor). Figure guidelines written by Carol Abraczinskas (Scientific Illustrator). Revised 24 Feb 2020.

## TITLE PAGE

The title of the paper should concisely reflect the contents of the paper. Try to avoid over-long titles or double-barreled titles (i.e., those broken into two parts separated by colon). Include parenthetical specifiers (set off by commas, if necessary) to provide context to lower-level taxonomic or stratigraphic names. The title should be in all caps and centered.

The word “BY” should be separated by a blank line from both the title and the authors’ names. Make sure to indicate distinct addresses with a numbered footnotes. For more than one author with the same address, use a superscripted number.

Author addresses should include institutional affiliation (including country name) and an email address.

Include a running header below the list of author names that includes the author(s), an em dash (“—”), and the suggested running head. It should be flush left. For example:

NEW SPECIES OF *TITANOIDES* (MAMMALIA, PANTODONTA) FROM THE MIDDLE  
CLARKFORKIAN (LATE PALEOCENE) OF NORTHWESTERN WYOMING

BY

PHILIP D. GINGERICH<sup>1</sup>

RH: GINGERICH—CLARKFORKIAN *TITANOIDES*

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## ABSTRACT

The abstract should summarize the main ideas and conclusions presented in the manuscript. *Contributions* abstracts should be fewer than 250 words; longer abstracts are accepted for *Papers*. Include taxonomic, geographic, and stratigraphic designations for indexing purposes. Abbreviations (apart from scientific units) and references should not be included within the abstract.

## HEADINGS

Three different headings are employed in *Contributions* and *Papers*. Please use these to organize the body of your manuscript. In general, there should be more than one section organized within each heading.

▸ Primary Headings are in all caps, bold-face type, and centered. They should be preceded by two blank lines and followed by a blank line.

▸ Secondary Headings are in Title Case, bold-face type, and flush left. They are preceded by a blank line and followed by a blank line before text begins.

▸ Tertiary Headings are in Title Case, italics type, indented, and separated from the text that follows by a period, em-dash, and space. They are not preceded by a blank line.

▸ Institutional Abbreviations should be listed under a Primary Heading immediately following the Introduction and before Systematic Paleontology (if applicable). Each abbreviation should be arranged on a separate line, in alphabetical order, as they are in the following example. Please make sure to indicate the country.

GSI — Geological Survey of India, Kolkata (Calcutta), India.

GSP — Geological Survey of Pakistan, Quetta, Pakistan.

ISI — Indian Statistical Institute, Kolkata (Calcutta), India.

MLP — Museo de La Plata, La Plata, Argentina.

▸ Systematic Paleontology should be a Primary Heading. Taxonomic hierarchy should include higher-level names centered and in all caps, each followed by the taxonomic reference in Sentence case. Lower-level taxon names (i.e., genera and species) are italicized and not in all caps. The subsections that follow (e.g., “Holotype,” “Locality and Horizon,” “Etymology,” “Diagnosis”) should be set off as Tertiary Headings.

▸ Acknowledgements are a Primary Heading. Acknowledgments can include reference to institutional assistance, individuals who supported the research effort, sources of funding, and reviewers, among others. First names should be abbreviated as initials; use full initials to refer to authors of the manuscript (e.g., to specify funding was to that person).

## IN-TEXT CITATIONS

▸ Citations within the manuscript generally take on one of two forms: the entire reference or references enclosed within parentheses, or only the date within parentheses. Note that there is a comma between author and date when the entire reference is within parentheses. For example:

“Twenty-two vertebrae were recovered with specimen UMMP 7507 (Case, 1927).”

“Fossil remains described by Case (1927) as *Coelophysis* sp. were renamed *Spinosuchus caseanus* by Huene (1932).”

▸ Additional references by the same author are separated by commas, and references by different authors are separated by a semicolon. For example:

“Basic descriptive work on *Spinosuchus caseanus* was carried out in the early twentieth century (Case, 1922, 1927; Huene, 1932).”

▸ For two authors, separate their names by “and” (e.g., “Fenton and Fenton, 1924”), and for three or more authors use “et al.” (e.g., “Sigler et al., 1971”).

▸ Use lower case “a” and “b” for publications by the same author(s) in the same year (e.g., “Szalay, 1972a, 1972b”).

▸ List in-text citations first in chronological order, then in alphabetical order. List all publications by the same author together. For example: “(Case, 1922, 1927, 1947; Huene, 1932).”

▸ When a specific designation is made in an in-text citation, include a space between the colon and page number, figure, plate, or table. Abbreviate figure(s) as “fig.” and plate(s) as “pl.” or “pls.” (e.g., “Case, 1927: figs. 2–6” or “Case, 1927: pl. 1). Use only Arabic numerals, even if Roman numerals are used in the original text. Do not use “p.” or “pp.” ahead of page numbers designated within parenthesis, and do not abbreviate the word “table.”

‣Capitalize the words “Figure” and “Table” when referring to the current article; write these words in lower case in all other instances.

## LITERATURE CITED

‣Entries should be organized in alphabetical order. For multiple entries for the same author, list chronologically. Use a series of five lines (i.e., ” \_\_\_\_\_”) rather than repeating names of author(s).

‣Capitalize the last name of each author.

‣For entries by the same author and different coauthors, list entries with the fewest number of coauthors first, then alphabetically, and then chronologically.

‣The first line of text should be flush left, lines below should be set off by a hanging indent.

‣Do not leave a blank line between entries.

‣Write out completely all journals, publishers, etc.

‣Use sentence case for all entries except for German-language titles, whose capitalization should be followed.

‣Note in the examples below, journal name is set off from volume number by a comma, there is a space between the colon and page range, and page ranges are separated by an en-dash (“–”).

CASE, E. C. 1922. New reptiles and stegocephalians from the Upper Triassic of western Texas. Carnegie Institution of Washington Publication, 321: 1–84.

\_\_\_\_\_. 1927. The vertebral column of *Coelophysis*. Contributions from the Museum of Paleontology, University of Michigan, 2: 209–222.

FENTON, C. L., and M. A. FENTON. 1924. The stratigraphy and fauna of the Hackberry Stage of the Upper Devonian. Contributions from the Museum of Paleontology, University of Michigan, 1: 1–260

HUENE, F. v. 1932. Die fossil Reptil-Ordnung Saurischia, ihre Entwicklung und Geschichte. Monographien zur Geologie und Palaeontologie, 4: 1–361.

- SOKAL, R. R. and F. J. ROHLF. 1995. *Biometry*, Third Edition. W. H. Freeman, New York, 887 pp.
- SIGLER, J. P., D. WHITE, and R. V. KESLING. 1971. *Logocrinus brandoni*, a new inadunate crinoid from the Middle Devonian Silica Shale of Ohio. *Contributions from the Museum of Paleontology, University of Michigan*, 23: 213–220.
- SZALAY, 1972a. Cranial morphology of the early Tertiary *Phenacolemur* and its bearing on primate phylogeny. *American Journal of Physical Anthropology*, 36: 59–76.
- \_\_\_\_\_. 1972b. Paleobiology of the earliest primates. In R. H. Tuttle (ed.), *The Functional and Evolutionary Biology of Primates*, Aldine-Atherton, Chicago, pp. 3–35.

## TABLES

Tables with their captions should be comprehensible without reference to the text. The table caption appears above the table, as shown below. Use the formatting shown below to create your table. Write the word “TABLE” in all caps and flush left, separated from the caption by an m-dash (“—”) set off by spaces. The header column has a double line above and a single line below; the last row has a single line below. Please do not use vertical lines in the table, and use the table function of the word processor to adjust columns and rows.

TABLE 3 — Field numbers for elements of the holotypic specimen of *Rajasaurus narmadensis* (GSI Type No. 21141).

Element	Field Number	Pit number	Year collected	GSI Type No.
Braincase	4	4	1984	21141-1
Mid-cervical	45	7	1984	21141-2
Anterior dorsal	258	3A	1983	21141-3
Anterior dorsal	110	3	1983	21141-4
Mid-dorsal	72	3	1983	21141-6

## FIGURES\*

All figures should be designed to work visually as a cohesive unit and contain the same features – the same font, font size, leader line thickness, scale bar thickness, general photograph size, spacing and visual balance throughout. Consistency throughout the body of figures is important. Plan ahead as one layout will usually limit size and therefore dictate how the remaining layouts will be designed. Authors preparing figures are encouraged to view recently published copies of *Contributions* for general layout, format and style content (see figure examples below). Figures that do not meet journal guidelines may be returned to author for revision.

### Accepted File Formats

All figures should be designed electronically in an accepted file format:

Adobe Photoshop (.psd) – *with layers intact*

Adobe Illustrator (.ai)

Microsoft Word (.doc, .docx) – manuscript, tables

### Figure Size and Resolution

All figures should be prepared at final publication size, either 1-column or 2-column width and not exceed the full-page height, *including the figure legend*.

1-column width: 8.7 cm, 3.425 in or 20p6 picas

2-column width: 17.8 cm, 7.008 in or 42p0 picas

Full-page height: 22 cm, 8.662 in or 52p0 picas

Columns can be designed in either Photoshop or Illustrator by going to File > New and type in the desired unit width and height. Design figures to maximize the column width; however, in some cases the final width of each figure may include negative space (white space on either side of the figure.) Figures should not be designed at a random size or larger than journal column or page dimensions.

Exceptionally large horizontal figures and tables can be designed and rotated to fit within a final vertical format. Figure legend will be rotated as well. Design large figures at:

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\* Written by Carol Abraczinskas (Scientific Illustrator), revised June 2017.

Exceptionally large figure width: 22 cm, 8.662 in or 52p0 picas, *including figure legend*

Exceptionally large figure height: 17.8 cm, 7.008 in or 42p0 picas

## Types of Illustrations

### Line artwork produced in Illustrator:

**Format:** .ai (preferred), .eps or .pdf

**Color mode:** Grayscale (also known as 8-bit)

**Examples:** Charts, graphs or black and white graphics with no shading.

**Requirements:** Graph lines should have a stroke weight of no less than 0.25 pt to ensure printability. Embed fonts when saving file.

### Line artwork produced or scanned into Photoshop:

**Format:** .psd *with layers intact* or .tif *with layers intact*

**Color mode:** grayscale

**Resolution:** 1000 dpi

**Examples:** Stipple drawings, black and white art, line drawings

**Requirements:** Original drawings should be scanned at 1000 dpi. Low-resolution images or scans should not be copied into 1000 dpi layout. Converting a low-resolution 72 dpi image to 600 dpi does not improve image resolution. Be aware that moiré patterns can occur if scanning previously printed artwork that contains a dot pattern. Use your scanners “descreen” function to avoid creating moiré patterns. To discard color information and reduce file size, go to Image > Mode > Grayscale. To save as .tif (Tagged Image File Format) file, go to File > Save As > TIFF and apply LZW compression to reduce file size without losing image quality and aid in file transfer.

### Photographs (halftones):

**Format:** .ai, .psd *with layers intact* or .tif *with layers intact*

**Color mode:** RGB for on-line publication or grayscale (also known as 8-bit)

**Resolution:** 600 dpi

**Examples:** Photographs, fine tone drawings, shaded artwork

**Requirements:** Color photographs should be converted to RGB if necessary, before being placed in RGB format.

### Combination artwork (halftone and line): Photographs or fine tone drawings with line art

**Format:** .ai, .psd *with layers intact* or .tif *with layers intact*



**Color mode:** RGB for on-line publication or grayscale (also known as 8-bit)

**Resolution:** 600 dpi

**Examples:** Photographs, fine tone drawings, shaded artwork, stereo photographs with labeled weighted-line drawings

**Requirements:** Original drawings should be scanned at 600 dpi. Low-resolution images or scans should not be copied into 600 dpi layout. When saving as .tif, LZW compression should be used to reduce file size without losing image quality.

### **General Requirements**

*Multiple parts.*— Figures that contain multiple parts should be labeled with capital letters (example: A, B, C, etc.) and submitted as one integrated figure. Letters should be located in the upper left-hand corner of the corresponding part and be in Helvetica or Arial Regular 10.5 pt. Capital letters should be aligned either horizontally or vertically to each other whenever possible and a consistent negative space between figure letter and labeled part should be maintained. Negative space (white space) between parts should be of equal value.

*Lettering and leader lines.*— Lettering should be consistent throughout all figures in the paper. Text for abbreviations should be in Helvetica, Arial or Symbol fonts, regular 8.5 pt. Do not use fonts smaller than 5.5 pt (1.6 mm high) or larger than 14 pt (4.5 mm high) in figure. Leader lines should be consistent thickness throughout all figures. Leader lines should be in vector format and be a thickness/stroke that is visually comfortable to drawing. Do not use heavy leader lines for delicate drawings. Always use leader lines when labeling with abbreviations. Never label part of a specimen by placing an abbreviation on top of that area. Never place an abbreviation on an area of a specimen while using a leader line to label another area of the specimen. All labeling should be editable. Do not rasterize text.

*Use of color.*— *Contributions* is an on-line publication and while grayscale is preferred, some color illustrations may be permitted. Please consult with Editor, Jeff Wilson (wilsonja@umich.edu) regarding number and use of color photographs or figures. For on-line publication RGB (Red, Green, Blue) mode is used. Make sure color mode in Photoshop or Illustrator is in RGB and that only RGB colors are used in layout. CMYK (Cyan, Magenta, Yellow, Black) mode is for print. Do not use CMYK print colors in RGB format. Authors wishing to use color images in printed version must consult with Journal Editor about submitting a second version of color figure in CMYK mode. Layout must contain CMYK photos and CMYK colors and CMYK grayscale tones for print. No RGB photos or colors should be placed in CMYK layout. Please note that merely converting the layout color mode from RGB to CMYK is not acceptable for final print.

*Safe colors for the color vision impaired.*— Do not use colors red and green together, or lesser-known bad color combinations such as green and blue, green and brown or blue and purple. Refer to [www.colorbrewer2.org](http://www.colorbrewer2.org) for tips on color design and to select safe colors for the color vision impaired. Both Photoshop and Illustrator can generate a simulated color blindness proof to double-check figure colors. Go to View > Proof Setup > Color Blindness. A more-thorough simulated color blindness proof can be generated in <http://colororacle.org/>

*Photographs.*— Photographs must be high-resolution and of high quality. Do not use low-resolution/pixelated images taken from the Internet at 72 or 96 dpi. Strategically crop photographs to remove unwanted or extraneous background information, or mask unwanted information using Photoshop or Illustrator. If masking background in Photoshop, carefully preserve edges of photograph. Backgrounds should be white or 100% black. Do not assume that photograph of black cloth used as background is 100% black. Do not take photos of specimen using a black cloth as background and then attempt to add to cloth background while drawing in the computer using black swatch. The blacks may appear to be the same in the computer, but will be different when printed. See example below.

*Stereo photographs.*— Stereo photographs should be placed at an interocular width of 65 mm at final publication size. Double-check placement of right and left photographs to ensure correct stereo effect.

*Graphs.*— Line weights for graphs should be between 0.25 pt and 1.25 pt at final size. While line weights less than 0.25 pt are visible in the computer, they may print ineffectively or may disappear altogether when printed. Do not rasterize lines. Do not make multiple boxes in Illustrator and attempt to overlap or align boxes to design graph. Use individual lines or paths to create graph. Axis ticks should be of equal length and distributed equally along axes. Do not allow axes to extend beyond plotted data. Only *x*- and *y*-axes are necessary (not top or right-handed axes.) Layouts that contain multiple graphs should align common axes. Axis labels should be titlecase. Use key within figure to define graph symbols or define symbols in figure legend. Define all abbreviations or acronyms in figure legend. The metric system and the International System of Units (SI) are required. Do not clog up maps or graphs with extraneous information. Carefully edit visual information.

If using gray tone within graphs, tone should be no lighter than 10% and no darker than 85%. Range of gray tones should be in increments of 15–20% in order to visually differentiate values when printed.

*Numbers.*— No comma is used in numbers for graphs that range from single to thousands (e.g., 3000 not 3,000). Use comma for 30,000. Numbers for graphs or ranges of numbers should be of symmetrical decimal placement and lead with zero e.g. 0.5–1.0, not .5–1. An en dash (–) is used between numbers to show a range.

*Arrows.*— Arrowheads and line/stroke weights should be in vector format and consistent throughout all figures.

*Scales.*— Scale bars should be of a comfortable thickness in relationship to the photo/drawing they are paired with. A uniform scale thickness should be used throughout all figures for consistency. Scale bars should be thicker than leader lines to visually stand out from leader lines. Scale photos or drawings to each other in order to share a scale bar (or be a multiple of a scale) to minimize the number of scale bars needed on a single layout. If multiple scale bars are needed, they must be consistently oriented (all horizontal or all vertical) and should preferably be parallel to the object or photo they are scaled with/to (e.g. if specimen is in a vertical format, scale bar should be vertical. If specimen is in a horizontal format, scale should be horizontal.) Scale should never be perpendicular to the object it is paired with. Length of scale should be easily readable and not be too big or too small in relationship to the specimen it is paired with. Measurement of scale can either be shown in figure or listed in figure legend. Scale measurement must be in metric units. Do not use magnification factors.

*Double-check final design.*— Final figures should be double-checked by printing at 100% in order to confirm figure quality, what figures will look like in final manuscript and to ensure font readability. File size can also be checked in Photoshop by going Image > Image size. File size in Illustrator can be checked by going to View > Rulers > Show rulers.

### **File Names**

Figure files should be named using the corresponding author's last name, figure number, and designed column width. For example, "Smith\_fig1\_1col.tif" or "Jones\_fig2\_2col.eps"

### **Copyright Permission**

Authors are responsible for obtaining permission to use previously published figures – even their own – and must submit a copy of this permission with copyrighted figure to be printed. Authors are encouraged to seek permission to reproduce material as early as possible, as the process can take up to several weeks. Contact the author or illustrator to obtain original, high-resolution copies of previously published artwork vs. scanning previously published artwork or pulling low-resolution artwork from on-line PDF journals. Please note that it is a professional courtesy to inform the author or illustrator of the original material of your intent to use their published work.

### Submitting Figures: For Review

Figures for review should be submitted in final design form and at final publication size. While figures may be originally designed in different formats, they should be exported or ‘saved as’ low-resolution files and combined together into a single PDF for initial submission. If ‘save as PDF’ is not an option, choose Print > Save as PDF instead of the print option. Figures should be organized within the PDF in the sequential order in which they are referenced in the manuscript.

**Low-resolution:** 150 dpi – 300 dpi

**Acceptable formats to combine into PDF:** .jpg, .pdf, or .tif.

### Submitting Figures: Final Submission of Revised Manuscript

Figures should be submitted in final design form, at final publication size and at final resolution (see ‘Types of Illustrations’ above for final format requirements.) Figures should be submitted as separate files and labeled in the sequential order in which they are cited in the manuscript.

### FIGURE LEGENDS

Figure legends should be included at the end of the manuscript and not a part of or embedded within the figures. Legends should be a brief overview of the entire figure and address individual parts, if any. Figures should be double-checked against figure legends for content. Dashed lines, symbols, specific patterns and colors shown in figures should be explained in the figure legend. All abbreviations shown in a figure must be listed in the legend. The abbreviations should be preceded by ‘Abbreviations:’, italicized and listed in alphabetical order. It is important to use consistent abbreviations throughout a manuscript. Do not use ‘*p*, parietal’ in one figure and ‘*pa*, parietal’ in the next.

**Pattern Example:** “Dashed lines indicate estimated edges; hatching indicates broken surface; double-dash pattern indicates matrix.”

**Abbreviation Example:** “Abbreviations: *a*, angular; *bo*, basioccipital; *c*, coronoid; *cr*, crest; *d*, dentary; *fo*, foramen; *p*, parietal.”

## FIGURE EXAMPLES

Map example (Line artwork produced in Illustrator) at 1-column width:

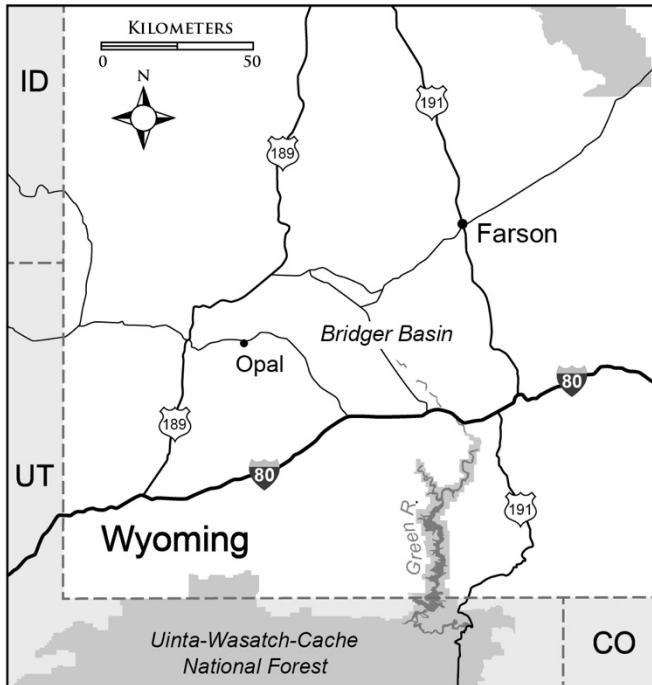


FIGURE 1 — Map of southwestern Wyoming showing the Greater Green River Basin. Specimens described in this study were collected from Bridger Basin, Opal, and Big Island-Blue Rim (west of Farson). Map designed by C. Abraczinskas and Google Maps 2017.

Combination artwork example (halftone and line) at 2-column width (with some negative space on either side):

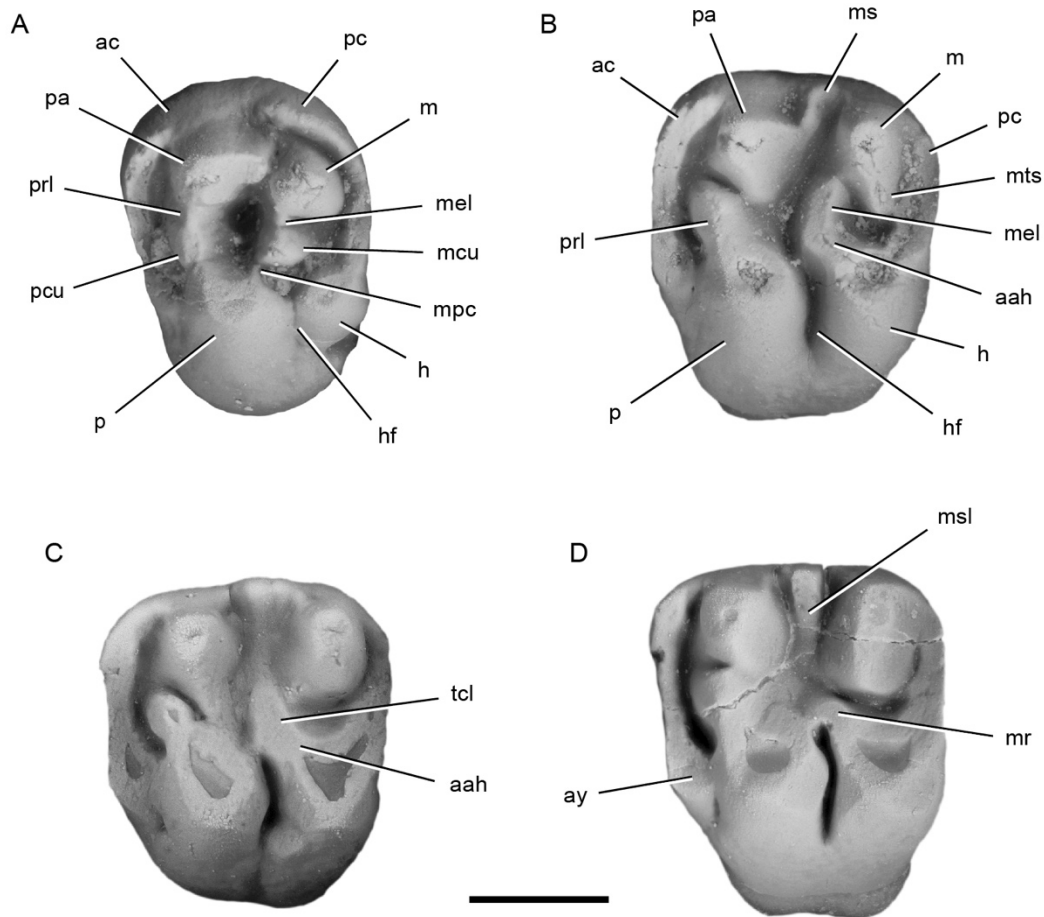


FIGURE 3 — Terminology of diagnostic and common dental surface features of the three new species of *Sciuravus*. Surface features are mainly based on Wood and Wilson (1936), Wood (1962), Reig (1977), Flynn et al. (1986) and Marivaux et al. (2004). **A, B**, *S. metalinguas* right P4 and M1 (holotype; UM 95757); **C**, *S. inclinatus* left M1 (holotype; UM 100804); **D**, *S. nexu* left M1 (holotype; UM 100746). Anterior is towards the left, buccal is towards the top in all images; specimens in A and B are reversed. Scale bar = 1 mm. Abbreviations: *aah*, anterior arm of hypocone; *ac*, anterior cingulum; *ay*, anterostyle; *h*, hypocone; *hf*, hypoflexus; *m*, metacone; *mcu*, metaconule; *mel*, metaloph; *mpc*, metacone-protocone connection; *mr*, mure; *ms*, mesostyle; *msl*, mesoloph; *mts*, metalingual spur; *p*, protocone; *pa*, paracone; *pc*, posterior cingulum; *pcu*, protoconule; *prl*, protoloph; *tcl*, third central loph.

Combination artwork example (halftone and line) at 1-column width:

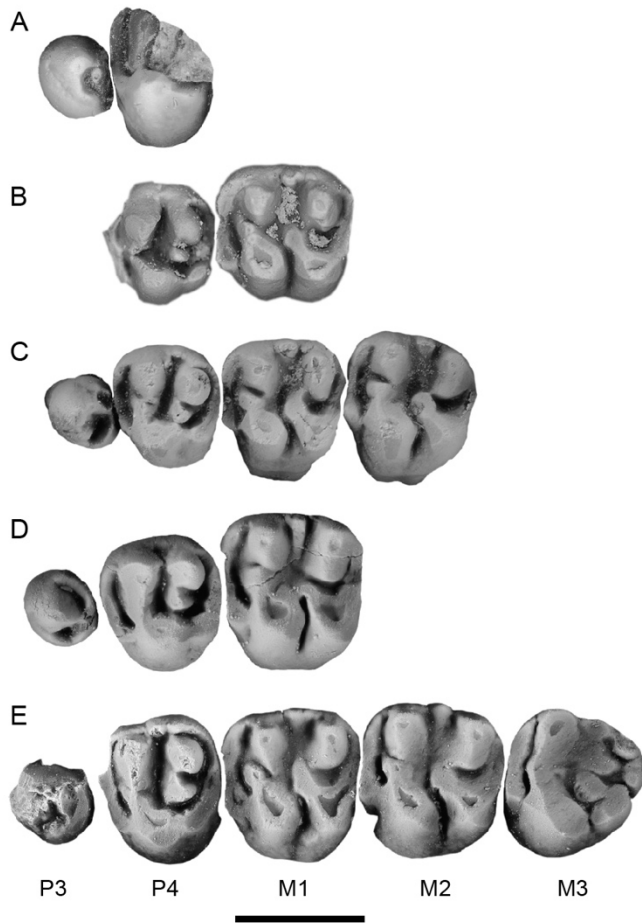
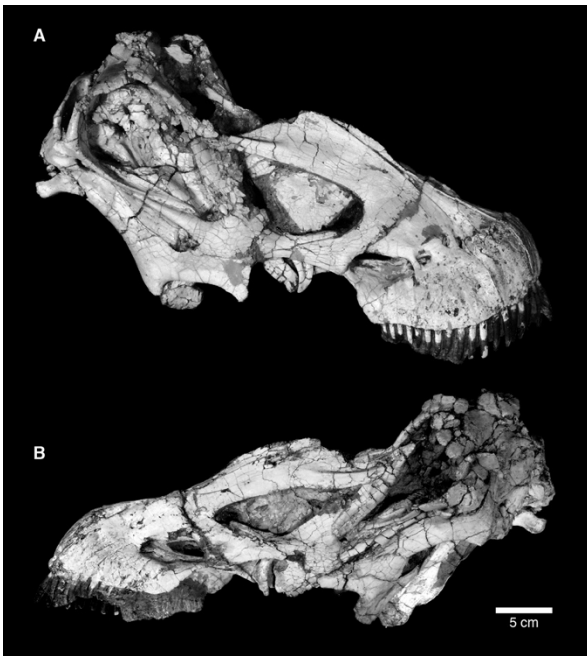


FIGURE 5 — An occlusal view of *Sciuravus* sp. specimens with P3–P4 illustrates some of the morphological differences between *S. inclinatus* and four other species of *Sciuravus*. In the *S. inclinatus* holotype (UM 100804), the P3 is roughly molariform, similar to that of *S. wilsoni* (UM 110570), but distinct from the conical P3 of the *S. nexus* holotype (UM 100746) and *S. nitidus* (DMNH 30139). In UM 100804, the P4 paracone and metacone are set further apart than those of UM 100739. In the *S. inclinatus* holotype (UM 100804), the P4 hypocone is less well defined and the metaconule is relatively larger compared to that of *S. popi* (UM 100739) and *S. wilsoni* (UM 110570). **A**, *S. nitidus* right P3–partial P4 (DMNH 30139); **B**, *S. popi* left P4–M1 (UM 100739); **C**, *S. wilsoni* right P3–M2 (UM 110570); **D**, *S. nexus* left P3–M1 (holotype; UM 100746); **E**, *S. inclinatus* left P3–M3 (holotype; UM 100804). Anterior is towards the left in all images; teeth are aligned at P4/M1. Photographs A and C are reversed. All teeth were coated with ammonium chloride. Scale bar = 2 mm.

**Example of incorrect black background showing different blacks used.** Background may appear OK on computer screen (left) but will appear as different blacks when printed (right).



**Example of incorrect white background showing different “whites” used.** Background may appear OK on computer screen (left) but will appear as different whites when printed (right).

