**JPA Template for Systematic Paleontology**

**Systematic paleontology**

Starting from v. 90 (2016), general information on repositories and institutional abbreviations (e.g., museums, collection) is not to be provided in the beginning of the **Systematic paleontology** section. Such information should be placed in a secondary heading at the end of the **Materials and methods** section (see JPA Manuscript Formatting Template).

 If necessary, start the **Systematic paleontology** section with special nomenclature for morphological terms or concepts that pertain specifically to the subject matter.

 Examples of both required and optional subheadings for the **Systematic paleontology** section are provided below. The order of subheadings and heading names should follow the below examples. Additional subheadings can be used as needed, but they should not replace existing subheadings in the template and should be placed immediately before the *Remarks* subheading.

 The Journal of Paleontology generally employs Linnéan nomenclature with designated ranks, but does allow a rank-free hierarchy. The International Code of Zoological Nomenclature (ICZN) and the International Code of Nomenclature for algae, fungi, and plants (ICN) must be adhered to. Follow standard practice in cases where the categories deviate from these codes (e.g., “tribe”). Phylogenetic groups determined via cladistic analysis can be used to inform supra-specific concepts but do not replace the Linnéan hierarchy.

### New taxonomic names

### When publishing papers that describe a new zoological taxonomic name, (including family, genus, species, ichnofamily, ichnogenus, or ichnospecies), Journal of Paleontology aims to comply with the requirements of the [International Code of Zoological Nomenclature endorsed by the International Commission on Zoological Nomenclature (ICZN)](http://iczn.org/). Effective 1 January 2012, the ICZN considers an online-only publication to be legitimate if it meets the criteria of archiving and is registered in ZooBank, the ICZN's official registry. If the manuscript contains a new zoological taxonomic name, please see our ZooBank Guide for how to register the manuscript, the new taxon or taxa, and how to report the manuscript UUID.

When publishing papers that describe **paleobotanical taxonomic names**, the systematics must conform with the latest edition of the International Code of Nomenclature for algae, fungi, and plants.

For open nomenclature, follow Bengston (1988, Palaeontology: v. 31, p. 223–227). Designation of “sp.” or “sp. indet.” is preferred to informal names (e.g., “n. sp. A”).

Provide taxonomic assignment for each genus/species at the Family level or higher (with authorship and date, and their corresponding entries in the **References** section). Insert one blank line before the list.

Either ranked or rank-free hierarchies are acceptable.

**General example for a new genus**

Class Trilobita Walch, 1771

Order Ptychopariida Swinnerton, 1915

Suborder Ptychopariina Richter, 1932

Superfamily Ptychoparioidea Matthew, 1887

Family Ptychopariidae Matthew, 1887

*Remarks*.—A remarks section can be inserted at any level for higher taxonomic names as needed (e.g., for family). Follow with one blank line and continue the systematic paleontology list.

Genus *Newgenusname* new genus

<Example for a NEW genus>

<one blank line above any genus name that contains genus-level content>

<Genus name preceded by "Genus" and followed by "new genus">

<Abbreviate "new genus" to “n. gen.” after first use>

<Do not include a synonymy list for generic concepts>

<Sequence of headings: *Type species* – *Other species – Diagnosis*

*– Occurrence* – *Etymology* (any additional subheadings) – *Remarks*>

*Type species*.—<Required> Name with author and year of the type species, and whether it is “by original designation” or otherwise. Add "by monotypy" if the genus is monospecific. It is useful to include any other relevant information about the type species, e.g. location, biostratigraphic and geographic occurrence. Including page, figure and plate numbers is optional.

*Other species*.—<Optional>A list of valid species for the genus can be provided, or included in *Remarks*.

*Diagnosis*.—<Required>In telegraphic style and in a standard sequence. Authors should ensure that diagnoses distinguish the taxon in question from all morphologically similar taxa. For this reason it is usually better if the diagnosis is differential in style. Remember that a genus is a concept, not a thing. With a monospecific genus, it is permissible to state “as for type species by monotypy”.

*Occurrence.—*<Recommended>Describes the geologic and geographic position or range. Same as "Distribution" in some journals.

*Etymology*.—<Required>Explains the derivation or origin of the taxonomic name. Authors must check to see that the new genus name is not occupied within the Kingdom of their organism. A useful resource includes, but is not limited to: [ION](http://www.organismnames.com/) (Index to Organism Names).

*Any additional subheadings*.—<Optional>Minimize use of custom sections. Employ them when needed to organize and highlight complex issues.

*Remarks*.—<Required>Same as "Discussion" in some journals. An explanation of the generic concept and context should go into the *Remarks*.

**General examples for previously described genera**

Class Coniferopsida Pant, 1957

Order Voltziales Andreanszky, 1954

Family Majonicaceae Clement-Westerhof, 1987

Genus *Lebowskia* Looy, 2007

Figures 1.5, 2-3

<one blank line above any genus name that does contain genus-level content>

<Genus name preceded by "Genus" followed by author and date>

<Do not include a synonymy list for generic concepts.>

<Sequence of headings: *Type species* – *Other species* –

*Diagnosis* – *Occurrence* – (any additional subheadings) – *Remarks*>

The extent of the treatment may vary. Major revisions would likely include a *Diagnosis* section which indicates that the generic concept is modified. If it is emended from a preexisting one, explain that in the *Remarks*. It is not necessary to add qualifiers to the *Diagnosis* such as "*Emended"* in the subheading, rather, in *Remarks* include a literature citation, or “emended from [a reference].”

*Type species*.—<Required>*Lebowskia grandifolia* Looy, 2007 (USNM 530565) from the Flowerpot

Shale Member of the San Angelo Formation at Buzzard Peak, Cedar Mountain, Texas, U.S.A, by original designation.

*Other species*.—<Optional>A list of valid species for the genus can be provided, or included in *Remarks*.

*Diagnosis*.—<Optional>See notes for new genus *Diagnosis*.

*Occurrence*.—<Optional>Describes the geologic and geographic position or range. Same as "Distribution" in some journals.

*Any additional subheadings*.—<Optional>Minimize use of custom subheadings. Employ them when needed to organize and highlight complex issues.

*Remarks.—*<Optional>Additional information relevant to the genus.

**General example for a new species**

Suborder Asaphina Salter, 1864

Superfamily Asaphacea Burmeister, 1843

Family Ceratopygidae Linnarsson, 1869

Genus *Proceratopyge* Wallerius, 1895

<no blank line above genus name that does not carry genus-content below>

*Proceratopyge speciesname* new species

Figures 1.1–1.4, 3

<Species name followed by "new species"; abbreviate to "n. sp." after first use>

<Reference to Figures of the species in the paper>

<A chronologic synonymy is required (if applicable), formatted as below>

<Include each bibliographic entry in the **References** section.>

<Sequence of headings: *Holotype – Diagnosis – Occurrence – Description*

*– Etymology – Materials* – (any additional subheadings) – *Remarks*>

1952 *Strotocephalus arrojosensis* Lochman in Cooper et al., p. 157, pl. 21, figs. 29–34.

2000 *Amecephalus arrojosensis*; Sundberg and McCollum, p. 607, fig. 5.1–5.13.

<Authorship of species can be omitted after first mention in synonymy>

2003b *Amecephalus arrojosensis*; Sundberg and McCollum, p. 966, pl. 3, fig. 12.

*Holotype.—*<Required>Holotype and other type designations, repository acronyms, and catalogue numbers, followed by brief information on the geologic age, stratigraphic unit, and geographic location of type locality.

*Diagnosis.—*<Required>In telegraphic style and in a standard sequence. A differential diagnosis is preferable to simply an abbreviated description. In the case of a monospecific genus do not put “as for genus” because the species is the tangible item: the characters of the species inform the generic concept. Do not cite figures.

*Occurrence.—*<Recommended>Describes briefly the geologic and geographic position or range. (Same as "Distribution" in some journals).

*Description.—*<Required>In telegraphic or prose style and in a standard sequence. This section may be split into separate headings for different anatomical parts if desired. Reference to figures is permitted to call out specific features, if useful.

*Etymology*.—<Required> For derivation of names from Latin or Greek, consult Brown, R.W., 1954. [Composition of Scientific Words](https://archive.org/details/compositionofsci00brow). Smithsonian Institution Press, 882 p.

*Materials*.—<Optional>A list or description of all materials considered in the study.

*Any additional subheadings*.—<Optional>Minimize use of custom sections. Employ them only when needed to organize and highlight complex issues.

*Remarks*.—<Required>Same as "Discussion" in some journals. If necessary, additional categories and sections are best placed as third-level headings in the *Remarks* section.

**General example for a new species – rank-free hierarchy**

Pterosauria Kaup, 1834
Pterodactyloidea Plieninger, 1901
Archaeopterodactyloidea Kellner, 2003
Ctenchasmatidae Nopcsa, 1928

*Forfexopterus* Jiang et al., 2016

*Forfexopterus jeholensis* new species

Figures 2–5

Follow with same protocol for new species as above.

**General example for a previously described species**

*Kochiella maxeyi* Rasetti, 1951

Figure 7.1–7.23

<Species name with authorship and year>

<omit Etymology, Diagnosis optional; otherwise similar to template for NEW SPECIES>

1951 *Kochiella*? *maxeyi* Rasetti, p. 228, pl. 13, figs. 5, 8.

<Authorship of species can be omitted after first mention in synonymy>

?1951 *Kochiella*? cf. *K. maxeyi*; Rasetti, p. 229, pl. 13, fig. 9.

1957 *Kochiella*? *maxeyi*; Rasetti, p. 961, pl. 120, figs. 1–3.

1963 *Eiffelaspis maxeyi*; Chang, p. 479.

2002 *Kochiella maxeyi*; Sundberg and McCollum, p. 85, fig. 7.10.

*Holotype.—*<Required>Cranidium (USNM 116114) from the Mount Whyte Formation, southern Rocky Mountains, Canada (Rasetti, 1951, pl. 13, figs. 5–7).

*Diagnosis*.—<Optional>A differential diagnosis is preferable. Place rationale for an emended diagnosis in *Remarks*.

*Occurrence.—*<Optional>Describes the geologic and geographic position or range. Same as "Distribution" in some journals).

*Description*.—<Optional>See notes for new species description.

*Materials*.— <Optional>A list or description of all specimens examined.

*Any additional subheadings*.—<Optional>Minimize use of custom sections. Employ them when needed to organize and highlight complex issues.

*Remarks.—*<Required>Additional information relevant to the species. Other subheadings can be used as needed. Avoid redundancy and unnecessary duplication of already published information if no new data or interpretation is presented. If a diagnosis is emended, make that clear in the *Remarks*.