**JPA Template for Systematic Paleontology**

**Contents**

[Layout](#Layout)

[Nomenclature](#Nomenclature)

[General example for a new genus](#NewGenus)

[General example for a previously-described genus](#PreviousGenus)

[General example for a new species](#NewSpecies)

[General example for a new species – rank-free hierarchy](#RankFreeSpecies)

[General example for a previously-described species](#PreviousSpecies)

**Layout**

* 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.
* Examples of subheadings are provided below. Follow subheading order and include all required subheadings.
* Additional subheadings can be included, but should not replace existing subheadings and should always be placed immediately before the Remarks.
* If necessary, the Systematic paleontology section can begin with special nomenclature for morphological terms or concepts that pertain specifically to the subject matter.
* General information on repositories and institutional abbreviations should be provided in the Materials and methods section, **not** the Systematic paleontology.

### Nomenclature

* All taxonomic groups should adhere to systematics requirements.
* Both Linnéan nomenclature and rank-free hierarchies are acceptable.
* Adhere to the International Code of Zoological Nomenclature (ICZN) or the International Code of Nomenclature for algae, fungi, and plants (ICN). Follow standard practice in cases where categories deviate from these codes (e.g., “tribe”).
* Papers that describe a new zoological family, genus, or species name must be registered with ZooBank, the ICZN's official registry. This includes new names for animals, animal traces, and problematic fossils.
* Phylogenetic groups determined via cladistic analysis can be used to inform supra-specific concepts but cannot replace the Linnéan hierarchy.
* 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”).

**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>

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

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

<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, etc. 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 subsections. 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 example for a previously-described genus**

Class Coniferopsida Pant, 1957

Order Voltziales Andreanszky, 1954

Family Majonicaceae Clement-Westerhof, 1987

Genus *Lebowskia* Looy, 2007

<one blank line above any genus name>

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

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

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

The extent of 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* and include a literature citation.

*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 subsections. 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

*Type species*.—*Proceratopyge conifrons* Wallerius, 1895. From the upper Miaolingian of Sweden.

*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 subsections. 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 subsections. 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*.