

## Comparative Parasitology Policies and Instructions for Authors

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### CONDITIONS FOR PUBLICATION

#### Scope of the journal

*Comparative Parasitology* (COPA) publishes original research in all branches of parasitology, with special emphasis on comparative research in parasite taxonomy, systematics, ecology, biogeography, substantial faunal surveys, and inventory within a morphological and/or molecular foundation.

*Comparative Parasitology* publishes two types of papers: research articles and research notes. Research notes are narrower in scope than research articles. For example, the study design in a research note may lack spatial or temporal replication, whereas a research article contains well-supported data. Research notes are typically shorter (3–6 pages) than research articles (7–20 pages), and there is a significant difference in formatting between the two types of papers (see Formatting section).

*Comparative Parasitology* is printed annually by the Helminthological Society of Washington (HelmSoc). Two online issues are bound together, printed, and shipped once per year. Any manuscript for publication must be submitted electronically through KnowledgeWorks Global Ltd.'s PeerTrack™ system at <https://www.editorialmanager.com/copa>.

#### Conditions for acceptance

Manuscripts are received by COPA with the following understandings:

- All authors have participated in the study and/or in the preparation of the manuscript.
- All authors have read and understood the manuscript and consent to authorship.
- The work, results, and ideas presented are original.
- The work has not been previously published, is not currently under consideration for publication

elsewhere, and will not be submitted elsewhere unless rejected by COPA or withdrawn by written notification to the editor of COPA.

- If accepted for publication and published, the copyright will be retained by the HelmSoc, and permission to reprint articles in whole or in part must be obtained in writing from the editor in chief of COPA.
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- We permit green archiving, in which authors may share the accepted version of the manuscript in places such as their personal websites or university repositories. Please note that the accepted version refers to the version before the formatting that HelmSoc hires KnowledgeWorks Global Ltd. to undertake before publication in issues of COPA.
- For members of HelmSoc, the first three published manuscript pages are free and each subsequent page is US\$50. For non-HelmSoc members, there are no free pages and each page is US\$100. As of late 2023, HelmSoc annual membership fees, which include online access to COPA, are US\$20. You can become a HelmSoc member through our webpage at <http://www.helmsoc.org>.
- Animals from natural populations are obtained and used in accordance with the regulations and policies of appropriate international, federal, or state agencies.
- Any research conducted on humans or other vertebrates must be done according to national ethical guidelines. Appropriate approvals (from, e.g., institutional review boards and institutional animal care and use committees) must be obtained before the start of the study.

### GENERAL INSTRUCTIONS

Manuscripts should be prepared as described below and submitted through PeerTrack (<https://www.editorialmanager.com/copa>). Text files should be submitted

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as Microsoft Word files (.doc or .docx). Tables (.docx) and figures (.tiff) are submitted as separate documents within the PeerTrack System. *Comparative Parasitology* does not support Supplemental Materials unless it is submitted in table format.

### Manuscript preparation

- Prepare manuscripts in a standard word document, double-spaced throughout, including title page, literature cited, tables, and figure legends.
- Leave at least a 1-inch (2.5-cm) margin on all sides. Avoid hyphens or dashes at the ends of lines.
- Use 12-pt. font and Times New Roman throughout. Assemble the main manuscript in the following order: running head, title, author(s), author affiliation(s), corresponding author, Abstract, key words, text, Acknowledgments, open researcher and contributor identifier (ORCID, if applicable), Literature Cited, and figure legends (if applicable).
- Tables (each numbered with an Arabic numeral and provided with a heading) should be submitted in the PeerTrack system separately. Use 12-pt. font, Times New Roman, and double space for the entire table.
- Number pages consecutively, centered in the bottom margin, beginning with the title page (page 1) and including all the pages submitted. Add continuous line numbers to the entire manuscript.

### General points of style

- Use only one space between sentences.
- Write out numbers when beginning a sentence; otherwise, use numerals throughout, except in common phrases that are not counts, such as “one of us . . .”.
- Provide geographical coordinates (degrees and minutes followed by cardinal direction) of collection sites/localities.
- Spell out state, province, county, and other political or geographical divisions unless they are used in a table or figure with a key to the abbreviation(s) in the accompanying legend or footnote(s).
- Country names should be spelled in English (e.g., Brazil, not Brasil; Mexico, not México). Names of localities, states, provinces, etc., may be anglicized or written in the local language (e.g., Lago de Pátzcuaro or Lake Patzcuaro).
- Specify U.S.A. in localities as appropriate (e.g., Iron Horse Lake, Pawnee County, Nebraska, U.S.A.).
- General scientific style not delineated herein follows *Scientific Style and Format: The CBE Manual for Authors, Editors, and Publishers*, 8th ed. 2014. Council of Biology Editors, Inc., Chicago, Illinois, U.S.A.

### Use of taxonomic names and authorities

- Scientific binomens must be included for all the hosts and parasites mentioned. It may be appropriate to provide the common name of each host species at first mention or in a table when many hosts are involved.
- Genus and species names must appear in an italic font face.
- Write out the genus name of a species in full when it is first mentioned in the text (after the Abstract), even if it is part of a series of species in the same genus. Thereafter, abbreviate the genus, unless it is used at the beginning of a sentence.
- The specific name may be abbreviated in a trinomen (e.g., “*Trionyx spiniferus spiniferus* and *Trionyx spiniferus hartwegi*” on first use and subsequently “*T. s. spiniferus*” and “*T. s. hartwegi*”).
- If two or more genera begin with the same letter, generic abbreviations may distinguish the genera (e.g., “*Aedes aegypti* and *Anopheles gambiae*” on first use and subsequently “*Ae. aegypti*” and “*An. gambiae*”). Such differentiation is not required and is left to the discretion of the author(s), but must be consistent in abbreviation pattern throughout the manuscript.
- *Comparative Parasitology* does not require that each species name be accompanied by a taxonomic author and date. However, full citation of a taxon (genus, species, author, date) is encouraged when the manuscript conveys taxonomic intent. In all cases, be consistent in citation pattern (i.e., include taxonomic authors, with or without dates, for the following: all parasite and host taxa; all parasite taxa, but not host taxa; or no taxa).
- Genus and species names should not be used as adjectives (e.g., “*Schistosoma cercariae*”) or as plurals (e.g., “some *Schistosoma mansoni*”).
- Use the species name to refer to the taxon; avoid using it to refer to individuals of a species or genus.

### Accession numbers

If applicable, include the accession number(s) for deposited morphological and/or sequenced specimens with the submission. For example, newly reported nucleic acid and amino acid sequences must be submitted to appropriate public databases (e.g., GenBank<sup>TM</sup>, European Molecular Biology Laboratory, DNA Data Bank of Japan). Accession number(s) must be obtained and reported in the manuscript before the paper will be accepted for publication.

## STANDARD SECTIONS OF THE MANUSCRIPT

### Running head and title (see the top of this article as an example)

The running head and title begin on page 1 and are formatted as follows:

- Running head. Indicator “RH:” followed by the surname of the first author (and “et al.” as appropriate), and a short (up to five words) version of title separated from the author by a single hyphen. All elements are capitalized. Do not include ellipses in preceding instructions. (e.g., RH: SMITH-HERRON ET AL.—POLICIES AND INSTRUCTIONS FOR AUTHORS). Research notes do not have a running head.
- When submitting a research note, write “*Research Note*” in italics and bold at the top of the page in place of a running head.

Title block as follows:

- Title. In boldface with the first letter in major words capitalized.
- All lines of the title are flush left; do not center.
- Indicate country name with all place designations.
- Where appropriate, give common names of hosts, followed by scientific names. Use of taxonomic authorities in the title is optional but discouraged because their inclusion decreases the precision of most web-based search engines.
- We encourage the inclusion of higher level taxonomic ranks in the title [e.g., “*Strongyloides stercoralis* (Nematoda: Rhabditida)”].

Author block as follows:

- Authors’ first and last names. List sequentially on the line in small caps, beginning at the left margin.
- Spell out and hyphenate double surnames (e.g., Salgado-Maldonado, not Salgado M.).
- For manuscripts with more than one author, indicate by superscript number the reference to the author’s address in the address block. The corresponding author receives both a superscript to indicate their address and the highest value superscript to indicate their status as the corresponding author.

Address block as follows:

- Authors’ complete affiliation written out in full, including the full names (not acronyms) of all organizations, states, and provinces. The United States of America may be abbreviated as “U.S.A.,” but do not use abbreviations for other countries. The e-mail address of each author follows parenthetically.

- Precede each address by superscript number to match author reference.
- Address block ends with highest superscript number of author block followed by correspondence statement indicating the corresponding author (the author to whom all correspondence, proofs, billings, and reprint requests should be addressed); do not repeat the name and address (e.g.,<sup>5</sup>Corresponding author.).

### Abstract

The Abstract follows the address block (do not begin a new page). The Abstract is not indented and begins with the word “ABSTRACT” in all capitals, followed by a colon and the text of the Abstract.

- Be concise: include brief statements about the intent, methods, results, significance of findings, and mention of all new taxa.
- Indicate systematic or nomenclatural acts, but do not give diagnoses of new taxa in the Abstract.
- Do not cite references or use abbreviations in the Abstract.

### Key words

Immediately following the Abstract, tab indent and begin the next section with the phrase “KEY WORDS” in small capitals, followed by a colon and a list of key words.

- Provide key words for indexing purposes (no more than 15).
- Each key word should be separated by a comma and can include parasite and host names (both common and scientific names), major higher taxonomic groups (family, order, class, etc.), geographic locality names, habitat names, state or province, country names, major methods used, topical areas, subdisciplines, etc.

### Section headings

The text of a full paper follows immediately after the key words and consists of an Introduction, Materials and Methods, Results, Discussion, Acknowledgments, ORCID(s) (if applicable), and Literature Cited. Each section, except the Introduction, starts with a first-level heading.

There are three general-level heading formats and a taxon-level format used:

- First-level headings are bold and centered with all letters in capitals. First-level headings are applied only to primary manuscript sections (Materials and

Methods, Results, Discussion, Acknowledgments, ORCID, and Literature Cited). Examples follow.

## FIRST-LEVEL HEADINGS

- Second-level headings are bold, flush with the left margin, and begin with a capital letter. Capitals are used in the remainder of the heading only for proper nouns. Second-level headings are used as required to subdivide major sections of the manuscript.

### Second-level headings

- Third-level headings are tab indented, italicized, and begin with a capital letter. Third-level headings end in a colon, and the text follows immediately in normal case.

*Third-level headings:*

- “Taxon-level” headings are reserved for taxonomic and faunal or distribution study papers. They are bold, centered, and begin with a capital letter. Capitals are used in the remainder of the heading only for proper nouns.

### Taxon-level headings

- The paragraphs or sections of a research note do not have headings.
- The Introduction has no section heading.

### Materials and Methods

In this section, report and describe all the methods and techniques used in sufficient detail to enable independent replication. This can be done by citing standard references or previous articles.

### Citations in the text

Citations in the text follow the “name–year” style. Insure citations in the text

- are parenthetical by author and date, e.g., “(Snyder, 1996)”
- are arranged chronologically and then alphabetically
- use “and” between authors (do not use “&”)
- use a comma between the author(s) and the date
- use “First author et al.” for three or more authors (if this is not sufficient to distinguish among cited works, add subsequent authors to each text citation as required)
- are provided in the Literature Cited
- include only published works

### Taxonomic descriptions

Descriptions of new taxa and redescriptions of known taxa should be presented in the Results section. Taxonomic descriptions include five subsections: taxon name and figure callout, diagnosis, description, taxonomic summary, and remarks. Taxonomic descriptions should conform as closely as possible to the following format and order.

*Taxon name and figure callout subsection:*

- Name of the taxon as a taxon-level heading (bold, centered, sentence case capitalization).
- The intention of authors to establish new nominal taxa must be explicit. Authors must make their intentions explicit in the headings by using appropriate abbreviations for anglicized Latin terms for “new family” (“n. fam.”), “new genus” (“n. g.”), new species (“n. sp.”), new subspecies (“n. ssp.”), etc. The abbreviation “nom. nov.” (“nomen novum”) is used only to indicate a new replacement name. The abbreviation “stat. nov.” should not be used.
- Figure numbers follow parenthetically as a taxon-level heading on the line immediately under the taxon name.

*Diagnosis subsection:*

- Begins with “Diagnosis” as a second-level heading.
- The diagnosis should be written in “telegraphic” style, but should not be subdivided.

*Description subsection:*

- Begins with “Description” as a second-level heading.
- The description section should be written in telegraphic style and may be logically subdivided using third-level headings (e.g., “Males:,” “Females:,” “Redia:,” etc.).

*Taxonomic summary subsection:*

- The taxonomic summary subsection follows as a second-level heading and comprises several paragraphs (each of which begins with a third-level heading) to establish:
- “*Type host*.” Use full common and species binomen at first mention where possible. Taxonomic authorities and dates are not required unless authors wish to express explicit intentions regarding host taxonomy. (e.g., “Hermann’s tortoise, *Testudo hermanni*” or “Hermann’s tortoise, *Testudo hermanni* Gmelin, 1789”).
- “*Type locality/collection date*.” Include geographical or political location and geographic coordinates. Collection dates and collectors may be included in

this section (e.g., “South Catalonia, Spain, 41° 23'14"N; 2°11'17"E, 17 December 1993, by Carlos Feliu”).

- “*Site(s) of infection:*” (e.g., “Cecum”).
- “*Prevalence, intensity, and abundance of infection:*” Report prevalence, mean intensity, or abundance ( $\pm$ SE or SD), and range as available. Clearly state sample sizes. Definitions of prevalence, intensity, and abundance follow Bush et al. (1997) (*Journal of Parasitology* 83:575–583). That is, prevalence is the “number of hosts infected with 1 or more individuals of a particular parasite species (or taxonomic group) divided by the number of hosts examined for that parasite species.” Intensity is defined as the “number of individuals of a particular species in a single infected host.” Abundance is defined as “the number of individuals of a particular parasite in/on a single host regardless of whether or not the host is infected.” Please see Bush et al. (1997) for more information about how these terms are defined.
- “*Specimens deposited:*” Report Museum name(s) and accession (catalog) numbers for all deposited type and voucher specimens. *Comparative Parasitology* requires that all such specimens be deposited in a qualified, curated museum collection. Retention of name-bearing type specimens in private collections is a violation of the International Code of Zoological Nomenclature. See *Comparative Parasitology* (2000) 67(2):189 for details. Accession numbers for DNA sequence data deposited to GenBank (or other widely used database) for new species should be listed here. Gene name and the specimen from which the sequence was derived should be clearly indicated.
- “*Records:*” For redescriptions, list other geographic and host associations and cite previous reports.
- “*Specimens examined:*” Identify the other specimens examined by loaning museum and accession (catalog) numbers.
- “*Etymology:*” Describe the origin and meaning of the proposed new name.

*Remarks subsection:*

- The remarks subsection follows, beginning with “remarks” as a second-level heading.
- Discuss in full text (not in telegraphic style) the features of the new taxon, compare it with existing taxa, and clearly discuss the features that differentiate the proposed taxon from the existing taxa.
- In single-description papers, this subsection can replace the Discussion.

Authors should examine recent issues of COPA for examples of the style and format of taxonomic descriptions.

### Faunal and distribution studies

*Comparative Parasitology* welcomes original research in parasite systematics, distribution, and faunal survey. These contributions often incorporate a significant review of the existing knowledge of the geographical distribution and host taxon relationships of parasites. Faunal and distribution studies are presented in a format similar to that used for taxonomic descriptions.

Reports of faunal association and distribution (i.e., reviews of host and locality records) replace the Results section.

The format for a faunal and distribution study may be structured by parasite taxon, host taxon, or locality. The format outlined in the next section is appropriate for a faunal study structured by host taxon. Authors should adapt this format to suit the structure and scope of their data.

A faunal study structured by host taxon is divided into host subsections by using taxon-level headings (i.e., each host taxon begins a new section). Each host section includes one subsection for each parasite taxon reported. Parasite sections begin with the parasite taxon formatted as a second-level heading. In turn, each parasite section may include the following subsections: the parasite taxon name, figure callout, prevalence and intensity, site(s) of infection, type host, other reported hosts, locality records, specimens deposited, specimens examined, other known specimens, and remarks. The parasite taxon header and figure callout are formatted as second-level headings. The remaining subsections begin with the subsection name formatted as a third-level heading. The subsections defined here are not exclusive: authors should add or remove subsections to suit their study.

The general format of a faunal study structured by host taxon is discussed as a self-referential example given here:

#### Host taxon

##### Authority, date of publication

An unheaded host paragraph follows the host taxon header and presents sample sizes, sampling dates,



sampling localities, and any applicable host data (e.g., size, age, sex distributions).

### Parasite species

#### Authority, date of publication

(Figs. 1–2)

As appropriate, figure numbers follow parenthetically as a second-level heading on the line immediately under the parasite taxon heading.

(Syn. Synonym sp., Authority, date). As appropriate, synonymy is presented in an unheaded paragraph following the parasite taxon header and figure callout. If systematic or nomenclatural changes are proposed, authors must make their intentions explicit by using appropriate abbreviations (e.g., “n. syn.”).

The remaining subsections follow as a series of paragraphs (each of which begins with a third-level heading, flush left). Each paragraph presents data from the current study followed by data from other known studies. Citations of other reported studies follow their data parenthetically, and reports are separated by semicolons. These sections report the following.

*Prevalence, intensity, and abundance:* Report prevalence, mean intensity, or abundance ( $\pm$ SE or SD), and range as available. Please clearly state sample sizes. Definitions of prevalence, intensity, and abundance follow Bush et al. (1997). That is, prevalence is the “number of hosts infected with one or more individuals of a particular parasite species (or taxonomic group) divided by the number of hosts examined for that parasite species.” Intensity is defined as the “number of individuals of a particular species in a single infected host.” Abundance is defined as “the number of individuals of a particular parasite in/on a single host regardless of whether or not the host is infected.” Please see Bush et al. (1997) for more information about how these terms are defined.

*Site(s) of infection:* e.g., “Cecum.”

*Type host:* Use full common and species binomen when first mentioned, where possible. Taxonomic authorities and dates are not required unless authors wish to express explicit intentions regarding host taxonomy (e.g., “Hermann’s tortoise, *Testudo hermanni*” or “Hermann’s tortoise, *Testudo hermanni* Gmelin, 1789”).

*Other reported hosts:* Follow the same instructions given in the previous list item for “type host.” Cite references for host reports that are not a result of the current study. Use a comma to separate citations from their host reports and a semicolon to separate host reports. For example, “Ornate box turtle, *Terrapene ornata* (Blair, 1976); Eastern box turtle, *Terrapene*

*carolina* (Stock, 1972)” or “Ornate box turtle, *Terrapene ornata* (Agassiz, 1857), (Blair, 1976); Eastern box turtle, *Terrapene carolina* (Linnaeus, 1758), (Stock, 1972).”

*Locality records:* Include geographical or political location and geographic coordinates, where available, e.g., “Kanagawa, Japan (35°30’N, 139°50’E); Shiga, Japan (Yamaguti, 1941); Wakayama, Japan (Yamaguti, 1935b).”

*Specimens deposited:* Give the museum names and accession (catalog) numbers for all deposited type and voucher specimens. Accession numbers for DNA sequence data deposited to GenBank (or other widely used database) for the relevant species should be listed here. Gene name and/or specimen from which the sequence was derived should be clearly indicated.

*Specimens examined:* Identify the other specimens examined by loaning museum and accession (catalog) numbers.

*Other known specimens:* Give the museum names and accession (catalog) numbers of the other known type and voucher specimens.

### Remarks

The remarks subsection follows, beginning with “remarks” as a second-level heading. Discuss in full text (not in telegraphic style) the conclusions or significant synthesis regarding the parasite taxon. Justification for specific nomenclatural or systematic acts should be presented here. Occasionally, a parasite taxon appears more than once in a single manuscript (e.g., a single parasite taxon is reported from two or more host taxa in the current study). In these cases, remarks on a parasite taxon that are applicable to several host taxa should be presented at the first appearance of the parasite taxon. On subsequent appearances, authors should refer to their previous remarks (e.g., “see remarks on *Gregarina munieri* under *Diabrotica undecimpunctata*”). Alternatively, authors may present remarks of a more inclusive nature in the Discussion.

### Acknowledgments

In this section, recognize both the assistance of persons who are not authors and that of supporting organizations. Spell out organization names; do not use acronyms. Acknowledge funding sources and support. Indicate whether the work was done in partial completion of a degree and, if so, indicate the name of the institution. Authors should acknowledge applicable collecting, import, or export permits and ethical approvals in this section.

## ORCID*s*

The nonprofit organization ORCID maintains digital identifiers (iDs) that link individual authors with their scholarly work. Use of ORCID when submitting to *COPA* is optional. For any authors that would like their manuscript linked with their ORCID iD, the authors should provide their iD to the corresponding author who will include this information when entering the list of authors into the PeerTrack System. For authors with an ORCID, provide their name in italics followed by a link to their ORCID, as follows:

*Kelly L. Weinersmith* <https://orcid.org/0000-0002-3886-3480>

## LITERATURE CITED

### Published and unpublished works

Published works are those that meet the criteria for publication established by the *International Code of Zoological Nomenclature* (<https://code.iczn.org/>). Most theses and dissertations are unpublished works under these criteria. In the rare instance that an author must refer to an unpublished work, it should be cited as a personal communication, e.g., (Ormières, 1967, pers. comm.) or as an unpublished work, e.g., (Modak, 1998; unpublished thesis, University of Kalyani, Kalyani, West Bengal, India).

### General points of style

- Formatting should be consistent throughout.
- All journal names must be written in full.
- Verify all citations against original sources, especially journal titles, accents, diacritical marks, and spelling. Capitalize nouns in German.
- List in alphabetical order by first author's surname and secondarily in chronological order.
- For any single author or combination of authors that appears more than once, list the full author citation for each reference cited. Do not replace names with an underscore after their first appearance.
- The inclusion of digital object identifiers (DOIs) is strongly encouraged.
- Format this section by paragraphs with hanging indentations, using the sample formats provided in the next section.
- Use an em dash (i.e., —) to separate page numbers, instead of an en dash (i.e., –). On a Mac, you can make an em dash by holding down Option + Shift + Hyphen. On a desktop PC, hold down Alt + Ctrl + Minus (found on the numeric keypad). On a laptop PC, Word will automatically convert two adjacent hyphens to an em dash.

## Sample formats

### *Journal article:*

**Snyder, S. D., and V. V. Tkach.** 2001. Phylogenetic and biogeographical relationships among some Holarctic frog lung flukes. *Journal of Parasitology* 87:1433–1440. [https://doi.org/10.1645/0022-3395\(2001\)087\[1433:PABRAS\]2.0.CO;2](https://doi.org/10.1645/0022-3395(2001)087[1433:PABRAS]2.0.CO;2)

### *Book:*

**Levine, N. D.** 1980. *Nematode Parasites of Domestic Animals and of Man*, 2nd ed. Burgess Publishing Company, Minneapolis, Minnesota, U.S.A. 477 pp.

### *Book chapter:*

**Amin, O. M.** 1985. Classification. Pages 27–72 in D. W. T. Crompton and B. B. Nickol, eds. *Biology of the Acanthocephala*. Cambridge University Press, Cambridge, United Kingdom. (Total number of pages of the book is optional.)

**Niemiller, M. L., and T. L. Poulson.** 2010. Subterranean fishes of North America: Amblyopsidae. Pages 169–280 in E. Trajano, M. E. Bichuette and B. G. Kapoor, eds. *Biology of Subterranean Fishes*. CRC Press, Taylor & Francis Group, Boca Raton, Florida.

### *Russian monograph translations:*

**Skrjabin, K. I.** 1952. *Key to the Parasitic Nematodes. Volume 3: Strongylata*. Academy of Sciences of the U.S.S.R., St. Petersburg. Translated from Russian for the U.S. National Science Foundation and Department of Agriculture by the Israel Program for Scientific Translations. 1961. Office of Technical Services, U.S. Department of Commerce, Washington, D.C., U.S.A. 434 pp.

## TABLES

- Tables are submitted through the PeerTrack System as separate documents under the “tables” tab.
- Tables should be double spaced.
- Each table must have a title written in bold and in paragraph style, beginning with the word “Table.” Tables are numbered sequentially using Arabic numerals. Only the first word of the title, proper nouns, and appropriate scientific names are capitalized. (e.g., “**Table 1. Helminths reported from anurans of Borneo.**”)
- Tables should be able to “stand alone” (i.e., the title and the body of the table should be understandable without reference to the text).
- Species names are spelled out in full the first time they are used in the title or table. The generic name is abbreviated upon subsequent use.

- Use only horizontal lines to separate title, column headings, and body.
- Separate and align columns clearly.
- Do not reduce the size of type used in tables. Tables may span pages or be printed using landscape format if necessary.
- All abbreviations and/or symbols, including statistical notations, should be identified and/or defined in a footnote below the table.
- Use sec, min, hr, d, wk, mo, yr, and three-letter abbreviations for months.
- Designate footnotes using the following obligate symbol sequence: \* † ‡ § ¶ #

## FIGURE LEGENDS

- Begin on a separate page following the Literature Cited section, with the phrase “Figure Legends” as a first-level heading. Double space.
- Number each figure with Arabic numbers according to appearance in text and/or figure plate(s).
- When there are multiple figures on a plate, use numbering (do not use letters).
- Use the figure legend to list numbered figure(s) and group plate(s).
- Each figure must have a description statement or caption. Captions should contain enough detail to allow figures to be “stand alone” (i.e., they should be understandable without reference to the text).
- Each caption is written in paragraph style, beginning with “Figure(s)” in bold, and followed by each **number** in bold if it’s a plate.
- Species names should be spelled out in full the first time they are used in each caption. Abbreviations can be used each time after. Common name, host, and collection location are encouraged (where applicable) as it can make the figure more independent.
- Figure legend must contain an explanation for any abbreviations used on the figures. (e.g., “Abbreviation: BO, bothrium; C, cirrus; O, ovary.”)
- Indicate the value of scale bars directly in the figure. Do not report scale bar values in the figure legend (more about scale bars in figure section).
- Any keys, arrows, or other graphic indicators added to a figure should be explained clearly in the figure legend.

Example of a plate legend: **Figures 7–9.** *Salsuginus* sp. from gills of *F. chrysotus*. **7.** Whole mount (ventral view) of *Salsuginus* sp. **8.** Haptor of *Salsuginus* sp. showing marginal hooks, dorsal anchors, and dorsal bar. **9.** Haptor of *Salsuginus* sp. showing marginal hooks, ventral anchors, and ventral bar. Abbreviations: DA, Dorsal Anchors; DB, Dorsal Bar; MH, Marginal Hooks; VA, Ventral Anchors; VB, Ventral Bar.

## PREPARATION OF FIGURES

### General production of figures

Color figures are made available for free in the online edition of the journal. There is a US\$60.00 charge for each color plate if the author would like the figures to be available in color in the print edition as well. **Contact the editor directly if you would like color plates in the print edition of COPA.** If you would like color figures online, please insure to submit original figure(s) in color, not grayscale.

#### Formatting:

- Number figures with Arabic numerals in the order they are referred to in the text (do not refer to individual figures or elements using letters (e.g., 1, 2, 3, not 1a, 1b, 1c, 2a, 3a, or A, B, C, etc. Letters should be used only for figure labels).
- Multiple figures should be arranged left to right, top to bottom, if possible. Arrange multiple figures to form a “plate” to minimize “white space.” Refer to maximum page length and width in Publication Size section for more details.
- All figures must be mentioned somewhere in the text at least once. In the text, abbreviate “Figure” to “Fig.,” for example, “Fig. 3” or “Figs. 4–7”.
- Figure number goes in the upper left corner of image.
- Font style: Arial.
- Font sizes appearing within the figures should be as follows: Figure number: 24 pt. (6 mm), figure labels: 12 pt. (3 mm), scale bar value: 10 pt. (2.5 mm). If the figure is small or there are multiple labels, 10-pt. font acceptable to avoid clutter.
- Figure labels should be clear and kept consistent between all source material. Any label in the figure should be denoted in the figure legend (see section regarding figure legend).
- Figure labels and lettering should contrast sufficiently with the background to be easily read. Use black lettering against light backgrounds and white lettering against dark backgrounds. If numbers are still hard to see, an additional layer option is to add a “drop-shadow.” Drop-shadow format: distance, 0; spread, 25%; size, 4 pixels; angle, 90; and opacity, 100. Use white shadow for black labels and black shadow for white labels. Do not use white circles to offset black lettering from a dark background.
- All images, maps, line art, figures, etc., should have a scale bar and value (with unit of measure). Place scale bars horizontally at the bottom right-hand corner of each figure with the scale bar value centered directly above it. Do not indicate multiple values for a single scale bar. Do not report scale bar values in the figure legend.



- Scale bar line width should be 5 pixels for figures and 15 pixels for line art.
- Place symbols, scale bars, regression formulas, units, etc., directly on the figure rather than in the figure legend.
- Grave lines separating figures should be 5-pixel width and white.
- When using indicating arrows, use the following settings: line width, 5 pixels; arrow width, 250%; arrow length, 450%; and arrow concavity, 25%. If these arrow setting options are not available, use indicator lines: 5-pixel width, contrasting color against background (e.g., black on light, white on dark).

#### *Graph-specific formatting:*

- In graphs, axis labels are required, and should read as the scale of the accompanying axis increases (i.e., abscissa labels read left to right, ordinate labels read bottom to top).
- Axis tick marks should be used sparingly.
- Axis line width: 8–10 pixels, enclose graph in “box,” trend line width: 12–15 pixels.
- Font style: Arial.
- Font sizes appearing within the graphs should be as follows: Figure number: 24 pt. (6 mm); Graph title (if applicable): 12 pt. (3 mm); axis title: 8 pt. (2 mm); axis tick labels: 6 pt. (1.5 mm); Data markers: 6 pt. (1.5 mm).
- Do not include orientation lines in the field of the graph itself.
- Do not use a three-dimensional marker unless a z-axis is present and labeled (i.e., do not use three-dimensional effects in a two-dimensional graph).
- Data markers should be 1.5 mm in height, preferably in the following order of use: open and closed circle (●○), open and closed square (■□), open and closed triangle (▲△), open and closed diamond (◆◇), open and closed inverted triangle (▼▽).
- In bar graphs, use 12-pixel outlines and differentiate data series in the following order: open, closed, 35% gray, left hatch, right hatch.
- Graphs need a figure number in the upper left-hand corner, following the same formatting rules as a figure (see above). Scale bar, labels, and/or a legend should also be provided where necessary. Treat a graph like a figure, i.e., it should be added to the figure legend and mentioned in the manuscript.

*Publication size:* Maximum length for published figures is 8 inches (20.3 cm), including legend. Two published widths are available: (1) single column, 2.5 inches (6.4 cm) or (2) double column, 5.5 inches (14 cm). Image resolution: halftones (8-bit grayscale): 450 dpi; line art: 1,200 dpi.

Authors should consult recent issues of *COPA* for examples of figure preparations. The following list includes some notable models:

*Halftone plate, line art, and table:* Curran, S. S., Calhoun, D. M., Tkach, V. V., Warren, M. B., Bullard, S. A. 2022. A new species of *Prosohrhynchoides* Dollfus, 1929 (Digenea: Bucephalidae) infecting chain pickerel, *Esox niger* Lesueur, 1818 (Perciformes: Esocidae), from the Pascagoula River, Mississippi, U.S.A., with phylogenetic analysis and nucleotide-based elucidation of a three-host life cycle. *Comparative Parasitology* 89 (2), 82–101. <https://doi.org/10.1654/COPA-D-21-00014>

*Graph and map:* Mijatović, B., Pavlović, I., Živković, S., Trailović, I., Ćirić, J., Trailović D. 2022. Prevalence of endoparasites in the Balkan donkey (*Equus asinus*) from Serbia. *Comparative Parasitology* 89 (2), 115–121. <https://doi.org/10.1654/COPA-D-22-00005>

#### **File formats**

*Save figure files using one of the following formats:*

- TIFF (tagged image file format) with LZW compression, with flattened layers. This is the preferred format method.
- PDF (portable document format) or JPEG. If the figure includes embedded grayscale or photographic images, ensure that these figures have dpi of 450 or higher. Any image at a lower resolution will pixilate (blur) during editing.
- Image in a Word document. Please use this as a last resort and save it as large on the page as you can without losing image quality.
- **Any image that is to be printed in color MUST be originally sent in color.**

*Final note to authors:* *COPA* editors reserve the right to return manuscripts that do not follow the appropriate format laid out in this instruction manual. Our small team of editors will do the best they can to include suggestions with returned manuscripts, when possible. Authors submitting to this journal are eligible for discounted author services, including English language editing from BioOne and Charlesworth Author Services ([cauthors.com/BioOne](http://cauthors.com/BioOne)).

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