

Freshwater Mollusk Biology and Conservation

Author instructions

Aims and scope

Freshwater Mollusk Biology and Conservation (FMBC) publishes original papers that further our knowledge of freshwater mollusk biology or enhance our ability to conserve these animals. Appropriate topics include, but are not limited to, community ecology, population biology, reproduction and host use, physiology, genetics, biogeography, toxicology, impact assessments, conservation or management case studies, and methodological advances. Phylogenetic papers are welcome, but FMBC does not publish species descriptions. Purely descriptive papers or survey results are acceptable but the heuristic value and relevance of these observations must be made clear. For example, surveys must 1) report information on areas for which no previous survey information was available, 2) improve the quality or scope of existing information, or 3) examine faunal changes based on comparison with previous surveys; simple lists of taxa encountered are not acceptable.

Manuscript categories

All manuscript categories except book reviews will be subject to rigorous peer-review.

Regular articles are full reports that tell a reasonably complete story about a particular topic. Regular articles normally include the standard sections of a scientific paper (i.e., Abstract, Introduction, Methods, Results, Discussion; see Manuscript contents). Reviews, status surveys, or other types of contributions may deviate from this format as necessary. However, all contributions must have an Abstract, an Introduction that provides context for the paper, and a References section.

Notes are short papers of inherent value but limited scope due to methodological or other constraints. In addition, Notes provide an outlet for rapid communication of high-impact preliminary results, the description of new technology or rapidly evolving methods, or studies not requiring the comprehensive format of a Regular article. Despite their limited scope or brief nature, Notes should be supported by scientific rigor comparable to Regular articles.

Book reviews highlight and critique recent titles of interest to freshwater mollusk biology or conservation. Book reviews are not peer-reviewed but may be edited. Anyone wishing to submit a book review should contact an editor of FMBC.

Contributions that do not fall into one of these categories should be submitted to the Freshwater Mollusk Conservation Society newsletter, *Ellipsaria*.

Ethical issues

All submissions should represent original work; plagiarism in any form or other types of misconduct will not be tolerated. When citing previously published work, take pains to represent the findings and conclusions of those works accurately. Never cite a paper third-hand based on citation of the paper in another work; rather, always examine the source directly (not just the abstract).

Manuscripts must not have been submitted simultaneously or published previously, either fully or in part, in other outlets. When a submission represents expansion of previous work, authors should be transparent in the use of previously published material. In most cases, a single study should not be split into smaller parts for publication simultaneously or over time.

All authors listed on a paper must consent to its submission in its current form and must have contributed substantially to the work by 1) conceiving, designing, or implementing the study, 2) analyzing or interpreting the data, or 3) writing the manuscript. Avoid listing people who had a minimal or purely technical role, but these people can and should be recognized in the Acknowledgments section.

If required by the author's institution or employer, compliance with IACUC protocols should be stated in the Acknowledgments section (see subsequent).

Manuscript preparation and general style guidelines

Because it is on-line only, FMBC does not have a page limit for any type of submission. However, authors should strive for conciseness and brevity; the editors will require condensing of excessively long papers.

Manuscripts must be written in English and composed and submitted as a MSWord file (.doc, .docx; not .pdf); figures must be submitted separately and not embedded in the manuscript (see Preparation of figures). Use 12 point Times Roman font for all text; text on figures should use a plain, sans serif font (see Preparation of figures). All text components must be double spaced, unjustified on the right margin, and with 1 inch (2.5 cm) margins. Number each page and apply line numbers, to run consecutively throughout the text, from the Abstract to the Figure legends; do not apply page or line numbers to Tables, Figures, or Appendices.

As much attention should be paid to writing style and clarity as to study design, field sampling, and data analysis. Before submission, please edit your paper carefully for style, grammar, organizational flow, and consistency. Authors not fluent in English should have their manuscript checked by a native speaker before submission. Manuscripts that are poorly prepared in these respects will be returned. Several common style issues are discussed below; for additional writing guidance, consult the American Fisheries Society style guide (http://fisheries.org/docs/pub_stylefl.pdf) or the *Chicago Manual of Style* (University of Chicago Press, Chicago).

- To the extent possible, write in the first-person active voice and always use the past tense in the Methods and Results sections.
- Avoid sentence construction in which the author of a paper is the subject of the sentence. For example, “Ortmann (1909) documented the decline of mussels in the Allegheny River in response to water pollution from coal mining” is more clearly and concisely stated as “Mussels declined in the Allegheny River in response to water pollution from coal mining (Ortmann 1909)”.
- Avoid sentences that convey no specific information, such as “The results of methyl mercury toxicity trials for *Amblema plicata* are shown in Figure 2.” Instead, provide an informative statement: “*Amblema plicata* was acutely sensitive to methyl mercury (Figure 2).”
- Pay attention to proper paragraph construction. A paragraph should begin with a strong topic sentence that states the point of the paragraph, followed by about 2-4 sentences that develop the point, and should close with a sentence that summarizes the idea and perhaps leads to the next paragraph. Do not include ideas that are not related in some way to the topic sentence.
- Avoid jargon when possible and strive for an economical writing style that uses the fewest words necessary to convey the information.

First level headings indicate the major sections of the paper (e.g., Introduction, Methods, Results, Discussion) and are in bold type. Second level headings may be used when necessary to further subdivide these sections. Second level headings are in normal type. Third level headings also may be used and are italicized followed by a period and em dash and used to begin a paragraph.

Example:

Methods

Field sampling

Estimation of mussel abundance.—We estimated....

Abbreviations should be used only for terms that are repeated at least 3 times (e.g., CPUE, catch per unit effort). Abbreviations should be defined at first mention and used consistently thereafter. If a term is used less than three times, spell out the term in full each time it appears.

Footnotes should not be used, except on the title page or in Tables.

For indents, use tab stops or other commands, not the space bar.

Single-digit numbers should be spelled out unless they are used with units of measure or in conjunction with larger values (e.g., 5 sites in each of 12 streams). Numbers with four or more digits should contain commas, and numbers less than 1 should be preceded by zeroes (e.g., 0.82).

Dates may be expressed as either day–month–year (e.g., 11 January 2011) or month–day–year (e.g., January 11, 2011), as long as the same format is used throughout the paper.

Time should be expressed in terms of the 24-hour clock (e.g., 1435 hours rather than 2:35 p.m.).

Metric units must be used exclusively. Units should be abbreviated throughout the manuscript according to the Standard International System of Units (SI, <http://physics.nist.gov/cuu/Units/units.html>). Exponent notation (e.g., 11.9 m²; 0.03 m s⁻¹; 30 min site⁻¹ sample date⁻¹) is preferred over the formats 11.9/m²; 0.03 m/s; and 30 min/site/sample date, but either format can be used as long as it is consistent throughout the manuscript.

Genus and species names are italicized and common names are capitalized. Either scientific or common names can be used, but usage should be consistent throughout the paper. If common names are used, the scientific name must be stated in the main body of the text upon first mention. The naming authority for a taxon (e.g., *Lampsilis fasciola* Rafinesque, 1820) need not be used except in taxonomic or phylogenetic papers or other situations where nomenclatural clarification is truly needed. If authors do wish to include the authority, use it only once in the main body of the text upon first mention of the name or in a table if multiple species are treated; do not include the naming authority in the manuscript title or abstract unless absolutely necessary. Higher-level taxonomic names (e.g., order, family, tribe) are not capitalized when used as adjectives or common nouns (e.g., unionid bivalves, cyprinids, lampsilines).

Mathematical or statistical symbols from the Latin alphabet should be italicized, but Greek symbols are not italicized (e.g., μ , β , χ). Results of statistical tests should be reported fully, including test statistics, degrees of freedom, significance level, and other details as appropriate. For example, results of analysis of variance should be reported as follows: (ANOVA: $F_{1,19} = 8.42$, $P = 0.0092$).

Equations should be prepared using Microsoft equation editor or MathType.

For additional guidance on style issues, consult the American Fisheries Society style guide (http://fisheries.org/docs/pub_stylefl.pdf) or the *Chicago Manual of Style* (University of Chicago Press, Chicago).

Manuscript contents

Regular articles

Regular articles should be assembled in the following order:

Title page.—The title page should begin with a suggested running head (abbreviated title), followed by the full title preferably of 15 words or less in bold type, followed by author names and affiliations. Indicate author affiliations and current affiliations by superscripted numbers, and indicate the corresponding author with an asterisk. Provide an email address for the corresponding author at the bottom of the page.

Example:

Running head: Recent collection of the False Spike

Recent collection of the False Spike (*Quadrula mitchelli*) in the San Saba River, Texas

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Abstract. – The Abstract should state in one paragraph of 300 words or less, the main purpose, basic methods, major results, and conclusions of the study. Do not include citations or detailed statistical results, and avoid abbreviations when possible. Do not include statements such as “The results of host trials are presented”; rather, provide a summary of specific results. The Abstract is followed by a list of 5-7 key words.

Introduction.—The Introduction should provide context for the study and tell why the study was done. With the exception of methodological details, the remainder of the paper should be understandable based on information presented in the Introduction. Begin with a general overview of the topic and follow with successively more specific paragraphs, and end with a paragraph that states the goals of the study; specific hypotheses or expectations aid the reader, but these expectations should follow from information presented previously in the Introduction. Do not construct the Introduction as a literature review; rather, use existing literature to support and inform the story you are telling.

Methods.— The Methods section should be sufficiently detailed and clear to allow future workers to repeat the study. Existing, specific methodological procedures can be summarized and referenced to previous publications that describe those methods in detail, but referenced sources should be peer-reviewed and widely available. For statistical procedures, describe

explicitly the model that was tested, specify the dependent and independent variables, and evaluate the extent to which the data satisfy the assumptions of the procedure. A separate subsection entitled "Study area" may be used if necessary at the beginning of the Methods section, but limit this information to that which is needed to understand the study or later analyses; avoid inclusion of extensive water quality, landscape, historical, or other information if it is never brought to bear later in the paper. Other distinct methodological procedures also can be placed in appropriately headed subsections for clarity. Attempt to construct the Methods section in a linear fashion from simple to more complex procedures or such that later procedures build on those presented previously.

Results.— The Results section should report results more or less in the same order in which procedures are described in Methods and should use the same subheadings (with the exception of Study area). Tables or Figures that support the Results section should be comprehensive, but all aspects of the results do not necessarily need to be recounted in text; rather, summarize salient points of each major result and point out exceptional or unusual results. Do not reiterate methods or introduce new methods in Results, and do not interpret or discuss results in the Results section.

Discussion.— The Discussion should describe the significance of your results in plain language, draw specific conclusions, and bring to a close the story you have set up in the Introduction. Avoid reiterating the Introduction but try to return to ideas presented there, evaluating or extending these ideas as informed by your results, and raising new ideas when warranted. Avoid discussing topics that are not directly informed by the study. Speculation should be kept to a minimum and introduced only when it follows reasonably from the results. Do not reiterate methods or results in the Discussion. Avoid presenting as a major conclusion a statement such as "More research is needed..."

Acknowledgements.— Provide a brief list of people who assisted on the project and funding sources. Information about permits, animal use protocols, etc. also should be placed in this section as necessary.

References.— The References included in a paper should be comprehensive but economical. It is not necessary to cite every paper relevant to a particular topic; it is necessary only to provide adequate support for a statement you are making. Most statements can be supported by three or fewer citations; do not include strings of >3 citations unless absolutely necessary. Make sure that papers you cite actually say what you claim they say and that their conclusions are well-supported; it is necessary to read papers critically and objectively and not simply take at face value conclusions reported in the Abstract or Discussion. In general, references should be limited to peer-reviewed journal articles, books, or other published sources. Government agency reports can be cited as long as they are readily available, preferably online. Government agencies or other organizations can be cited using abbreviations (e.g., USFWS, USGS), but these abbreviations should be identified in the References section (see subsequent example). Do not cite manuscripts in review or abstracts; these sources may be cited as personal communication from the authors if necessary. References to personal

communications should be made sparingly and should not form the basis for substantial conclusions.

Citations in text should appear in chronological order separated by a semicolon and follow the formats:

- Some snails have an operculum (Smith 1972; Peterson et al. 1986; Baker and Johnson 2014).
- We measured mussel tissue mass following Matthews et al. (1990).
- (Phillips and Brown, in press)
- (R.S. Butler, US Fish and Wildlife Service, personal communication)
- (USFWS 2009)
- (<http://waterdata.usgs.gov/nwis/rt>; accessed June 1, 2012)

Multiple citations attributed to a single author or group of authors should be separated by a comma and cited as follows:

- (Smith 1972; Smith and Baker 1978, 1982).
- (Smith 1972a, 1972b)

In most cases, it is not necessary to place a citation following each particular point in a sentence; this practice breaks up the flow of the sentence. For example, “Mussel habitat use is influenced by sediment (Young 2011), flow (Underwood 1965), and temperature (Brown and Young 2005)” should be written as “Mussel habitat use is influenced by sediment, flow, and temperature (Underwood 1965; Brown and Young 2005; Young 2011).”

The list of references should be arranged alphabetically and chronologically within references by the same author. Papers that are accepted and in press should have an entry in the References section indicating the full list of authors, title, journal, and DOI number if available, but personal communications have no entry in the References. References to statistical manuals(e.g., SAS user’s manual) , whether online or published, should have an entry in References if specific information from these sources is discussed, but references to statistical packages do not have an entry and are cited only in text (e.g., SYSTAT 12; Systat Software, Chicago, Illinois). Online references should be accompanied by the date the reference was last accessed. Below are examples of several common reference formats:

Do not include the issue number in a journal citation unless the journal volumes are not consecutively paginated. For example, “American Midland Naturalist 138(2):402-407” should read: “American Midland Naturalist 138:402-407”.

Journal article

Allen, D. C., and C. C. Vaughn. 2009. Burrowing behavior of freshwater mussels in experimentally manipulated communities. *Journal of the North American Benthological Society* 28:93-101.

Webster, D. F., and F. L. Connor. In press. Diurnal cycles of snail feeding. *Journal of Gastropod Ecology*. DOI: 10.1111/jge.12804.

Book

Etnier, D. A., and W. C. Starnes. 1993. *The fishes of Tennessee*. University of Tennessee Press, Knoxville.

Hutchinson, G. E. 1957. *A treatise on limnology. I. Geography, physics, and chemistry*. John Wiley and Sons, New York.

Nico, L. G., J. D. Williams, and H. L. Jelks. 2005. *Black carp: biological synopsis and risk assessment of an introduced fish*. American Fisheries Society, Special Publication 32, Bethesda, Maryland.

Book chapter or paper in symposium proceedings

Robison, H. W. 1986. Zoogeographic implications of the Mississippi River basin. Pages 267-285 *in* C. H. Hocutt and E. O. Wiley, editors. *The zoogeography of North American freshwater fishes*. John Wiley and Sons, New York.

Hubbs, D. 2000. Augmentation of natural reproduction by freshwater mussels to sustain shell harvests. Pages 49-51 *in* R. A. Tankersley, D. I. Warmolts, G. T. Watters, B. J. Armitage, P. D. Johnson, and R. S. Butler, editors. *Freshwater mollusk symposia proceedings. Part I. Proceedings of the conservation, captive care and propagation of freshwater mussels symposium*. Ohio Biological Survey Special Publication, Columbus.

Theses or dissertation

Baird, M. S. 2000. Life history of the spectaclecase, *Cumberlandia monodonta* Say, 1829 (Bivalvia, Unionoidea, Margaritiferidae). Master's thesis. Southwest Missouri State University, Springfield.

Hurd, J. C. 1974. Systematics and zoogeography of the unionacean mollusks of the Coosa River drainage of Alabama, Georgia and Tennessee. Doctoral dissertation. Auburn University, Auburn, Alabama.

Government agency report or technical manual

Roberts, A. D., D. Mosby, J. Weber, J. Besser, J. Hundley, S. McMurray, and S. Faiman. 2009. An assessment of freshwater mussel (Bivalvia: Margaritiferidae and Unionidae) populations and heavy metal sediment contamination in the Big River, Missouri. Unpublished report, US Fish and Wildlife Service, Columbia, Missouri. Available at <http://www.fws.gov/midwest/semonrda/> (accessed May 12, 2011).

USEPA (U.S. Environmental Protection Agency). 1998. Water quality criteria and standards plan: priorities for the future. USEPA, 822-R-98-003, Washington, D.C.

USFWS (U.S. Fish and Wildlife Service). 2009. Fanshell mussel recovery action plan. USFWS Ecological Services Field Office, Frankfort, Kentucky. Available at: http://www.fws.gov/ecos/ajax/docs/action_plans/doc3064.pdf (accessed May 12, 2011).

SAS Institute Inc. 2008. SAS/STAT 9.2 User's Guide. Cary, North Carolina.

Figure legends.— All figure legends should appear on a separate page(s). Each legend should be brief but sufficient to explain the figure without reference to the text. All figures must be cited in the text and numbered consecutively with Arabic numerals reflecting the order of first mention in the text. Multiple panels may be designated as 'A', 'B', and so forth, and described accordingly in the legend, or they may be identified by descriptive titles.

Tables.— Each table should be on a separate page and accompanied by a title or heading that makes the table understandable without reference to the text. All tables must be cited in the text and numbered consecutively with Arabic numerals reflecting the order of first mention in the text. Tables should have no vertical lines and three horizontal lines: one below the title, one below the column headers, and one at the end of the table. Footnotes to tables should be indicated by superscripted lowercase letters (or asterisks for significance values and other statistical data), and footnotes should be listed on separate lines below the last line of the table.

Appendices.— Large data tables that substantially augment the paper or provide useful information to the scientific community can be placed in appendices. Avoid inclusion of large amounts of undigested data if the pertinence and usefulness of these data are unclear.

Manuscript contents for other contributions

Notes should begin with a title page as described for Regular articles, followed by an Abstract of 200 words or less. The remainder of the text can be constructed using the same section headings as Regular articles, but sections can be combined or omitted as necessary. For example, a Note reporting a series of field observations may have few methods per se, and methods can be described along with reporting of the observations (e.g., conditions under which observations were made). Similarly, Results and Discussion sections can be combined if this is logical. In any case, a Note should begin by providing context and rationale for the paper and close with an explanation of the significance of the data or observations in the same manner as Regular articles.

Book reviews do not have an Abstract but may have a short References section if necessary. Enquire to an editor of FMBC for other aspects of book review formatting.

Preparation of Figures

Each figure should be submitted as a separate file labelled with the author's name and the figure number. Use a sans serif font (e.g., Arial or Helvetica) for all lettering or numbering on figures; do not use bold type. Make sure that the point size of lettering or numbering is sufficient to make it legible after reduction in the final paper.

The following file formats are acceptable:

- .pdf (Portable Document Format)
- .jpg (JPEG)
- .tif (TIFF)
- .eps (Encapsulated Postscript)
- .psd (Photoshop)
- .ai (Illustrator)

Manuscript submission

All manuscripts must be submitted via the Allen Press *PeerTrack* Editorial Manager at <http://www.editorialmanager.com/fmbc/>

Manuscripts should be accompanied by a cover letter that 1) describes the significance of the work, 2) states the originality of the work, and 3) that the manuscript is not currently under consideration by another journal. During the submission process, the names and e-mail contact information for up to 3 individuals who may provide a thorough and impartial peer review of the manuscript will be requested.