

Microbes and Environments

Instructions for Authors

(revised February 2023)

1. Editorial Policy

Microbes and Environments (M&E) is an international journal devoted to the publication of original and review articles regarding all aspects of research on microbial ecology and environmental microbiology. It is published quarterly in a printed and an electronic version by *Japanese Society of Microbial Ecology (JSME)*, *Japanese Society of Soil Microbiology (JSSM)*, *Taiwan Society of Microbial Ecology (TSME)*, *Japanese Society of Plant Microbe Interactions (JSPMI)* and *Japanese Society for Extremophiles (JSE)*. Information about M&E is available online at:

<http://www.microbes-and-environments.jp/>. Publication of M&E is open to members and non-members of JSME, JSSM, TSME, JSPMI and JSE. Articles can deal with cultured and non-cultured forms of any type of microorganism: Bacteria, archaea, fungi, yeasts, protists, algae and viruses (please also see the scope of M&E on the web page). **All manuscripts must be submitted electronically via the online manuscript submission and peer review system at the following URL: <http://mc.manuscriptcentral.com/jsme2> (E-mail submission will not be accepted).** The Editorial Office will confirm the editorial style of a submitted manuscript. Authors who are unsure of proper English usage should have their manuscripts checked by someone proficient in the English language or engage a professional language editing service for help. The unsatisfying manuscript may be editorially rejected, and returned to the corresponding author. A received manuscript is sent to a Senior Editor of the Editorial Board, who is responsible for making a final decision on its acceptability. The Senior Editor will choose an Associate Editor who is in charge of sending the manuscript to at least two referees for criticism and further communication with authors. The primary criteria for judging the acceptability of a manuscript are its originality and scientific importance. A manuscript returned for revision should be resubmitted to the Associate Editor within 6 weeks; otherwise it may be considered withdrawn or treated as a new submission. On acceptance of a manuscript, the corresponding author will be sent page proofs by the Managing Editor. To avoid delays in the publication process, the proofs should be checked immediately only for typographical errors and returned to the Editor.

2. Types of Papers Published and Supplemental Material

Four types of papers are published: Full-length Regular Papers, Short Communications, Reviews and Research Highlights. **Regular Papers and Short Communications must represent a report of original research that has not been published before** (except in the form of an abstract or as part of a published lecture, review, or thesis) **and is not under consideration for publication elsewhere.** Only complete papers will be published; preliminary reports will not be considered. Papers published as Short Communications should not be longer than 4 printed pages (12 pages of double-spaced type-script, including tables and figures). The editors reserve the right to decide what constitutes a short communication. Review articles are summaries of developments in a fast-growing area, addressing any subject within the scope of M&E. Review articles are normally invited. Authors interested in submitting a Review should send the title and a short summary of the proposed topic to the Editor-in-Chief (E-mail: otsuka@g.ecc.u-tokyo.ac.jp) for approval before its submission. Research Highlight articles are invited brief communications concerning topics relevant to the readership of M&E.

Supplemental material may be posted by M&E for any types of paper. M&E encourages that supplemental material intended for posting by M&E be uploaded via the online submission system as a single PDF file or a video image file. If tables in supplementary material contain large data sets or raw data, they can be uploaded as an Excel file. The maximum size permitted for an individual file is 10 MB. References related to supplemental material only should not be listed in the References section of an article. Material that has been published previously (print or on-line) is not accepted for posting as supplemental material. Supplemental figures and tables should be referred to as Fig. S1 and Table S1, respectively. A figure for large phylogenetic tree should be basically supplied as a supplemental material.

3. Copyright and Agreement for Publication

All the authors of a manuscript must have agreed to its submission and are responsible for its contents, including appropriate citations and acknowledgements. All authors also must have agreed that the corresponding author has authority to act on their behalf in all matters pertaining to publication of the manuscript. If the manuscript is accepted for publication in M&E, a Copyright Transfer Agreement is sent to the corresponding author. The corresponding author will sign this agree-

ment on behalf of all the authors. Unless this agreement is executed, M&E will not publish the article. The author guarantees that the manuscript will not be published elsewhere in any other language without the written permission of the copyright holders. Copyright for supplemental material remains with the authors, but a license permitting the posting by M&E (Supplementary Material License Agreement) must be signed by the corresponding author.

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4. Submission of Manuscripts

Electronic submission to M&E is strongly encouraged via the Japan Science and Technology Agency (JST) online submission and peer review system at the following URL: <http://mc.manuscriptcentral.com/jsme2>. Step-by-step instructions for submitting a manuscript via the online submission system are available. Authors in Japan should give their address in Japanese as well as in English.

5. Preparation of Manuscripts

Manuscripts should be written in clear and simple English and be double-spaced for all text, on 280×210 mm (A4) or 8.5×11 inch sheets. A margin of at least 2 cm should be left around the text, and the right hand margin justification should be switched off. **All pages must be numbered consecutively, starting with the title page. The lines of the text should be numbered to aid the reviewers.** The arrangement of manuscripts for Regular Papers should be in the following order: Title, Author's name and Address, Abstract, Key words, Introduction, Materials and Methods, Results, Discussion, Acknowledgements, References, Tables, and Figure legends. Each file of figures and large-sized tables should be uploaded through the online submission system. Use section headings (*e.g.* Introduction, Materials and Methods, Results *etc.*) in the main text. Short Communications should include the same components as Regular Papers, but without section headings. The References section of Short Communications should be the same as that of Regular Papers. The maximum size permitted for an individual file is 20 MB.

Saving the text and tables: Microsoft Word or RTF is acceptable. Only for a large table, Excel is acceptable.

Saving the figures: Digital images in the PPT (PowerPoint), EPS or TIFF format are acceptable. The minimum resolution is 1,200 dpi for greyscale and color drawings, and 300 dpi for photographs.

The corresponding author will receive a galley proof for one revision. Only printing errors can be corrected. If the galley proof is not returned before the deadline, the paper may be printed without corrections.

Title page: The title page must include the title of the paper, the author's full name, affiliations, address, **the topic(s) of the manuscript** (see section 1) and the running headline. The E-mail address, and Tel. and Fax. numbers of the author to whom all correspondence is to be addressed should also appear as a footnote. The title should be as concise and informative as possible. Multiple authors with different addresses must indicate their respective addresses with numerals. Place an asterisk after the name of the corresponding author. The abbreviated running headline should not exceed 40 characters.

Abstract: The Abstract should be informative and completely self-explanatory, and briefly present the topic, major findings, and conclusions. **It should not exceed 250 words for a Regular Paper, and 100 words for a Short Communication.** The Abstract should be written in the past tense. Abbreviations and citation of literature should be avoided. Immediately following the Abstract, up to 5 Key words should be given.

Main text: Subheadings can be used in the Materials and Methods and Results sections of Regular Papers. Use of footnotes is not recommended, but abbreviations, when necessary, can be defined in a single footnote inserted in the first page of the text. Define abbreviations and acronyms not listed in the section "Common abbreviation" when they first appear; thereafter directly use them. No need to define if they are no longer used. When appropriate, the Results and Discussion sections can be combined.

Acknowledgements: After the Discussion section, Acknowledgements should be presented. Personal acknowledgements should only be made with the permission of the persons named.

References: Acceptable styles are shown in the examples below. Only full articles that have been published or are 'in press' can be included in the reference list. Unpublished or submitted papers should be referred to as such (*e.g.*, M. E. Smith, unpublished), or as a personal communication in the text. In the text, references should be inserted in parentheses in date order, as follows: (McIntosh, 1996; Kamagata *et al.*, 2000). The reference list should be in alphabetical order by first author. If first author is same, arrange the citations by year of publication. If both first author and published year are same, arrange them in

alphabetical order of second (or third, fourth and fifth) author. The references should not include personal communications, unpublished data or manuscripts in preparation (can be mentioned parenthetically in the text). Journal names should be abbreviated according to the Index Medicus. Each citation must be complete: Do not use *ibid.*, *idem.*, *etc.* Articles written by more than 8 authors should be edited to show the first six authors and '*et al.*'

Masuda, Y., Itoh, H., Shiratori, Y., Isobe, K., Otsuka, S., and Senoo, K. (2017) Predominant but previously-overlooked prokaryotic drivers of reductive nitrogen transformation in paddy soils, revealed by metatranscriptomics. *Microbes Environ* **32**: 180–183.

Adam, P.S., Borrel, G., Brochier-Armanet, C., and Gribaldo, S. (2017) The growing tree of archaea: New perspectives on their diversity, evolution and ecology. *ISME J* **11**: 2407–2425.

Kobayashi, S., Hira, D., Yoshida, K., Toyofuku, M., Shida, Y., Ogasawara, W., *et al.* (2018) Nitric oxide production from nitrite reduction and hydroxylamine oxidation by copper-containing dissimilatory nitrite reductase (NirK) from the aerobic ammonia-oxidizing archaeon, *Nitrososphaera viennensis*. *Microbes Environ* **33**: 428–434.

Sambrook, J., Fritsch, E.F., and Maniatis, T. (1989) *Molecular Cloning: A Laboratory Manual*. Cold Spring Harbor, NY: Cold Spring Harbor Laboratory Press.

Bernardet, J.-F., and Bowman, J.P. (2006) The genus *Flavobacterium*. In *The Prokaryotes*. New York, NY: Springer, pp. 481–531.

Chandler, M., and Mahillon, J. (2002) Insertion sequences revisited. In *Mobile DNA II: American Society of Microbiology*. Craig, N., Craigie, R., Gellert, M., Lambowitz, A. (eds). Washington, DC: ASM Press, pp. 305–366.

Bachvaroff, T. R., Williams, E., Jagus, R. and Place, A. R. (2015) A noncryptic noncanonical multi-module PKS/NRPS found in dinoflagellates. In *Proceedings of the 16th International Conference on Harmful Algae*. MacKenzie, A.L. (ed.) Wellington, New Zealand. Cawthron Institute, Nelson, New Zealand and International Society for the Study of Harmful Algae (ISSHA), pp. 101-104.

Zaikova, E. (2014) *Molecular Mechanisms of Host-Symbiont Recognition in a Highly Specific Sponge-Archaeal Symbiosis*. PhD Thesis, University of British Columbia.

Important notice 1: The style for citing references in the main text changed from vol. 35, issue 1, 2020 in M&E as follows; "...as described previously (Takai *et al.*, 2018; Nunoura *et al.*, 2019)." and "Takai *et al.* (2018) described..."

Important notice 2: M&E is now accepting initial submission in any reference format to ease the submission process for authors. During peer-review process, a revised/re-submitted manuscript will be required to follow the M&E reference format mentioned above.

For citing patent application or patent pending; ...was measured by this new technique (Okabe, S. 24 December 2001, Japan Patent Office).

For citing abstract of conference; ...are important primary colonizers (Tojo, M., *et al.* 2002. Abstracts for XXV Symposium on Polar Biology. p. 210, Tokyo, in Japanese).

Web-sites can be given as references, but only if the information is available without charge to readers. The format for citation is as follows:

Binniger, J., and Allen, J. (2014). General facts about the Gulf of Mexico. URL <http://www.epa.gov/gmpo/about/facts.html>

Figures: All figures including drawings and photographs should be compact at their intended publication size, and numbered consecutively. Indicate the figure numbers and first-author's name in the margin. **Titles and legends of figures must be typed separately.** Graphs should be made from finished drawings not requiring additional artwork or typesetting. Photographs should be glossy and rich in contrast. Give scales in microphotographs: do not report enlargement factors in legends. Figures in 1-column (maximum width *ca.* 8.3 cm) of the printed page are strongly recommended. The maximum width for a 2-column figure is 17.6 cm. Figures should be referred to as 'Fig. 1' or 'Fig. 1, 2 and 3,' *etc.* throughout the manuscript. Small panels in each figure may also be referred to as 'Fig. 1A' or 'Fig. 1A, B and C,' *etc.*

Tables: Each table must be typed on a separate page, and all tables should have titles. Abbreviations, when necessary, should be defined in table footnotes. The maximum width of a table on the printed page should be 17.6 cm, and thus the author should prepare tables as concisely as possible.

Reporting numerical data: Standard metric units are used for reporting length, weight, and volume. For these units and for molarity, use the prefixes m, μ , n, and p for 10^{-3} , 10^{-6} , 10^{-9} , and 10^{-12} , respectively. Likewise, use the prefix k, M, and G for 10^3 , 10^6 , and 10^9 , respectively. Avoid compound prefixes such as m μ or $\mu\mu$. Parts per million (ppm) or parts per billion (ppb) may be used when that is the common measure for the science in that field. Units of temperature are presented as follows: 37°C or 310K. When fractions are used to express such units as enzyme activities, it is preferable to use whole units, such as g or min, in the denominator instead of fractional or multiple units, such as μg or 10 min. For example, "pmol min⁻¹" is preferable to "nmol (10 min)⁻¹," and " $\mu\text{mol (g soil)}^{-1}$ " is preferable to "nmol ($\mu\text{g soil)}^{-1}$." It is not preferable to use units in combination with slash; for example, " $\mu\text{mol (g protein)}^{-1} \text{ min}^{-1}$ " is preferable to " $\mu\text{mol/g protein/min}$." Always report numerical data in the applicable SI units. "L" with an uppercase letter should be used for the unit of liter; *e.g.*, mL, μL , and nL. Seconds, minutes, hours, and days should be abbreviated as s, min, h, and d. A single space should be placed between the number and the units, but for the units for temperature (°C and K) and the symbols of "%" and "‰. For the presentation of percentages or ratios of chemicals, "w/w," "w/v," "v/v," or "mol/mol" should be presented in combination with "%" or ":"; *e.g.*, "10% (w/w)" and "25:24:1 (v/v/v)" are appropriate. Representation of data as accurate to more than two significant figures must be justified by presentation of appropriate statistical analysis with indicating sample number as ($n=3$), *etc.*

Equations: In mathematical equations, indicate the order of operations clearly by enclosing operations in parentheses, brackets, and braces. No spaces should be placed between "+," "-", "x," "/", "?," "=", "<," ">," "=", "=", and the symbols and the numbers.

Common abbreviations: The following abbreviations can be used in tables and figures without definition: avg (average), concn (concentration), no. (number), OD (optical density), ORF (open reading frame), *P* (probability), SD (standard deviation), SE (standard error), temp (temperature), sp act (specific activity), tr (trace), U (enzyme unit), vol (volume), vs (versus), wt (weight). In addition to abbreviations for common units (*e.g.*, bp, Da, kb, ppm and rpm) and chemical symbols for the elements, the following common acronyms should be used without definition in the title abstract, text, tables and figures: ATP, ADP, AMP, GTP, *etc.* (for the respective 5' phosphate of adenosine and other nucleotides); DNA, cDNA, RNA, mRNA, rRNA, *etc.* (for nucleic acids); ATPase, RNase, *etc.* (adenosine triphosphatase, ribonuclease, *etc.*); NAD⁺ (nicotinamide adenine dinucleotide, oxidized); NADH (nicotinamide adenine dinucleotide, reduced); NADP (nicotinamide adenine dinucleotide phosphate); NADPH (nicotinamide adenine dinucleotide phosphate, reduced); NADP⁺ (nicotinamide adenine dinucleotide phosphate, oxidized); CFU (colony-forming units); MIC (minimum inhibitory concentration); PFU (plaque-forming units); HPLC (high-performance liquid chromatography); PCR (polymerase chain reaction); EDTA (ethylenediaminetetraacetic acid); Tris (tris(hydroxymethyl)aminomethane); and UV (ultraviolet).

Sequence data: Authors are required to provide accession numbers to the three major collaborative databases- DDBJ/EMBL/GenBank for all nucleic acid sequence data reported in their manuscripts. Sequence data should be available in the reviewing process and publicly available upon publication. The accession number should be included in a separate paragraph at the end of the Materials and Methods section for Regular Papers or at the end of the text for Short Communications.

Chemical and biochemical nomenclature: The rules and recommendations of the International Union of Pure and Applied Chemistry (IUPAC) will be used for abbreviations of chemical names, and the nomenclature of chemical compounds, enzymes, isotopic compounds, and optically active isomers. Information can be obtained at the Web page <<http://www.chem.qmw.ac.uk/iupac/>>. Use the EC number when one has been assigned.

Nomenclature of microorganisms: Binary names consisting of generic and species names (e.g., *Bacillus subtilis*) must be used. A generic name followed by a specific epithet should be written out in full in the title and at first use in the text, and at first use in each legend and each title of figures and tables. Thereafter, it may be abbreviated to its capitalized initial letter (e.g., *B. subtilis*). If there are several generic names in the text with the same initial letter, the names should be spelled out at each occurrence. Names of all taxa (phyla, classes, families, genera, species, etc.) are printed in italics and should be italicized. For the bacterial names that have standing in nomenclature, authors should follow the *Approved Lists of Bacterial Names* (amended edition) (edited by V. B. D. Skerman, V. McGowan and P. H. A. Sneath) and the validation lists published in the *International Journal of Systematic and Evolutionary Microbiology* (IJSEM) (<http://ijs.sgmjournals.org/>). Information about bacterial

nomenclature is also available online at <http://www.bacterio.net/> (List of Prokaryotic Names with Standing in Nomenclature). If there is a need to use a non-valid name of bacteria, the name must be enclosed in quotation marks. Since the classification of fungi is incomplete, it is the responsibility of the author to determine the accepted binomial for a given organism.

Culture deposition: The Societies encourage authors to deposit studied strains in publicly accessible culture collections (ATCC, DSMZ, JCM, NBRC, etc.) and to refer to the collections and strain numbers in the text. In the case of materials that have been provided by individuals, authors should indicate the laboratory strain designations and the name and address of the donor, as well as the original culture-collection identification-number. WFCC-MIRCEN World Data Centre for Microorganisms (WDCM, <http://wdcm.nig.ac.jp/>) provides a comprehensive directory of culture collections.

Using Italic letters: Italic letters should be used for the running headline, and the subheadings. Italic letters should also be used for the followings: Latin names, first three letters of the names of restriction enzymes, names of loci, the Italic letters appropriately presented in IUPAC names, “e.g.,” “i.e.,” “ca.,” “et al.,” “in vitro,” “in vivo,” “in situ,” “in silico,” symbols for expressing probability, “n” for expressing the number of samples, and “g” for expressing the gravitational acceleration. These letters should also be written in Roman Type only when written in the running headline, and the subheadings.

6. Accepted Manuscripts

When a manuscript has been accepted, the Managing Editor will correct the style and the format of the manuscript, and the English will be proofread. The editing processes usually take about one to two months. The author should check the corrected manuscript and submit final version of the manuscript according to the instruction of the Managing Editor. The main text should contain the title page, abstract, references, tables, and figure legends, but no figures. Each figure must be saved in a separate file.

Only after completion of article processing charge payment (see section 7 for detail), the accepted manuscript will proceed to publishing process, except for the case that the corresponding author is a JSME/JSSM/TSME/JSPMI/JSE member.

Press release: Authors who plan for a press release, please contact by email to a production editor during an editing process of your accepted manuscript. Press release day should be set after completing the editing process.

7. Publication Fees

Authors are required to pay article processing charges for all accepted manuscripts. Corresponding authors of articles accepted for publication will receive an e-mail (Invoice) notifying them how to pay page and any other applicable publication charges (see below).

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For a nonmember corresponding author, article processing charge is ¥140,000 per article (Starting January 1st, 2018, subject to change, without notice). NOTE: Only after confirmation of payment of page charges, the accepted article will proceed to publication process.

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8. Errata, Author's correction, and Retraction

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The use of human subjects or other animals for research purposes is regulated by the government and individual institutions. Manuscripts containing information related to human or animal use should clearly state that the research has complied with all relevant guidelines and institutional policies.

12. Informed Consent

All investigations on human subjects must include a statement that the subject gave informed consent in Acknowledgement section. Patient anonymity should be preserved. Photographs need to be cropped sufficiently to prevent human subjects being recognized (or an eye bar should be used). When isolates are derived from patients in clinical studies, do not identify

them by using the patients' initials, even as part of a strain designation. Change the initials to numerals or use randomly chosen letters. Do not give hospital unit numbers; if a designation is needed, use only the last two digits of the unit. (Note: established - designations of some viruses and cell lines, although they consist of initials, are acceptable [*e.g.*, JC virus, BK virus, and HeLa cells].

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