**DESCRIPTION**

*Anaerobe* is essential reading for those who wish to remain at the forefront of discoveries relating to *life processes of strictly anaerobes*. The journal is multi-disciplinary, and provides a unique forum for those investigating *strictly anaerobic organisms that cause infections in humans and animals, as well as anaerobes that play roles in microbiomes or environmental processes*. As well as anaerobic or microaerophilic bacteria, *Anaerobe* will also consider manuscripts on anaerobic archaea, fungi, protists and bacteriophages of anaerobes.

Relevant topics fall into the broad categories of:

- Anaerobes in human and animal diseases
- Anaerobes in the microbiome
- Anaerobes in the environment
- Anaerobes in industrial processes (including biofuels and waste management)
- Microbial ecology of anaerobes
- Clinical microbiology involving anaerobes
- Pathogenesis of anaerobic organisms (including their toxins)
- Molecular biology and genetics of anaerobes
- Taxonomy of anaerobes
- Physiology of anaerobes

Papers describing innovative methodologies, technologies and applications to investigate anaerobic microorganisms are also of interest. Manuscripts describing novel species of obligate anaerobes will be reviewed, if the description of the new species also includes information showing novel phenotypic characteristics, pathogenicity and/or unique metabolic activity within the microbiome from which it was isolated. Manuscripts describing novel anaerobic species that are only different from other related members of a genus based on genotype will not be reviewed.

**Manuscript types** accepted (see Guide for Authors for more information):

- Original research articles
  
  Original research reports on one or more of the above listed categories. Up to 4000 words, not including a structured abstract, figures, tables and references.

- Short Communications
  
  Presentation of brief observations that do not warrant a full-length publication. Up to 1500 words not including abstract, figures, tables and references. Short communications should report complete datasets and not preliminary findings.
Reviews and minireviews

Reviews are typically 7,000 words in length including relevant tables and/or figures. Mini-reviews are typically restricted to 2,500 words in length. *New from March 1st 2023: Anaerobe no longer accepts unsolicited reviews and standalone mini-reviews. Proposals for reviews and mini-reviews within the topics mentioned above are welcome for consideration by the journal. Please provide a proposed title and detailed outline of the topic to be covered to an editor-in-chief by email.

Case reports

Presentation of a short report on a significant clinical observation, preceded by a minireview (up to 2500 words) of the literature describing the background of similar cases/infections, what is known about the associated microbe, and other clinically relevant information. *New from March 2023: Case Reports will only be considered in this new format.

Commentaries

Occasionally, Anaerobe will consider publication of commentaries on important new work in the field. Such commentaries will be invited by the editors-in-chief. Suggestions for commentaries may be emailed to an Editor-in-Chief. Unsolicited commentaries will not be considered.

Please note:

1. Anaerobe does not accept manuscripts on descriptive, sequence-based surveys of microbiomes, even if the environments of the sampled ecosystems select for anaerobic species. However, when studies such as these are accompanied by direct, mechanistic assays of strictly anaerobic components, they will be considered for publication.2. Anaerobe will not consider manuscripts that deal only with descriptive accounts of the beneficial effects of potentially novel probiotic strains, unless such strains belong to strictly anaerobic species that have previously not been associated with probiotic features. Anaerobe will continue to consider manuscripts for publication that address determinations of the specific mechanism(s) of action of anaerobic probiotic strains.

**IMPACT FACTOR**

2022: 2.300 © Clarivate Analytics Journal Citation Reports 2023

**ABSTRACTING AND INDEXING**

Scopus
PubMed/Medline
Current Contents - Life Sciences
Chemical Abstracts
Embase
Current Contents - Agriculture, Biology & Environmental Sciences
Web of Science
Research Alert
Chemical Engineering Biotechnology Abstracts
BIOSIS Citation Index

**EDITORIAL BOARD**

Emma Allen-Vercoe, University of Guelph, Guelph, Ontario, Canada
Human gut microbiome, Anaerobic microbial culture, Metabolomics, Microbial ecosystems, Live microbial products, Fusobacterium nucleatum

Maja Rupnik, National Laboratory of Health Environment and Food, Maribor, Slovenia
Clostridioides difficile, molecular epidemiology, gut microbiota, One Health

Larry Barton, The University of New Mexico, Albuquerque, New Mexico, United States of America
Microbial Physiology, Anaerobic Bacteria, Sulfate reducing Bacteria
Former Editors-in-Chief

Elisabeth Nagy, University of Szeged, Szeged, Hungary
Clinical microbiology, Anaerobic bacteria, Antibiotic resistance, MALDI-TOF MS, Bacteroides spp

Sydney Finegold†, Minneapolis VA Medical Center, Los Angeles, Minnesota, United States of America

J. Glenn Songer†, The University of Arizona, Department of Veterinary Science and Microbiology, Tucson, Arizona, United States of America

Associate Editors

Jordan Bisanz, The Pennsylvania State University, University Park, Pennsylvania, United States of America
Microbiome, Xenobiotics, Metabolism, Bioinformatics, Gnotobiotics

Lyudmila Boyanova, Medical University-Sofia, Sofia, Bulgaria
anaerobes, Prevotella, anaerobic cocci, Helicobacter, Campylobacter, probiotics, susceptibility, resistance, virulence, multidrug resistance, prevalence

Christine Coursodon Boyiddle, SeaGen Inc, Bothell, Washington, United States of America
Clostridium perfringens, Clostridioides difficile, immunohistochemistry, diagnostics

Laura M. Cox, Harvard Medical School, Boston, Massachusetts, United States of America
Microbiome, Neurodegenerative diseases, gut-brain interactions

Michael Flythe, USDA-ARS Forage-Animal Production Research Unit, Lexington, Kentucky, United States of America
Antimicrobial, Gastrointestinal, Herbivore, Metabolism, and ruminant.

Ellie Goldstein, University of California Los Angeles David Geffen School of Medicine, Los Angeles, California, United States of America
Bite wounds, susceptibility, clinical medicine

Wafaa Jamal, Kuwait University, Kuwait, Kuwait
Susceptibility, clinical Microbiology, antibiotic resistance

Stuart Johnson, Loyola University Medical Center, Maywood, Illinois, United States of America
Clostridioides difficile, treatment, epidemiology, diagnosis, parasitic disease

Daniel R. Knight, The University of Western Australia, Perth, Western Australia, Australia
Infectious Diseases Epidemiology, Microbial Genomics, Clostridioides difficile

Kornél L. Kovács, University of Szeged, Szeged, Hungary
Anaerobic microbial communities in the environment. Rumen and Biogas microbial communities. Oral anaerobic pathogens.

Sarah Kuehne, University of Birmingham, Birmingham, United Kingdom
Oral microbiology, Fusobacteria, Biofilms, Clostridia, anaerobic microbiology

Leandro A. Lobo, Federal University of Rio de Janeiro Professor Paulo de Goes Institute of Microbiology, RIO DE JANEIRO, Brazil
Bacteroides Spp. virulence and antibiotic resistance, Oxidative stress response in anaerobic bacteria, bacteria-host interactions in the human microbiome, opportunistic anaerobic bacteria, bacterial adhesion to human tissues, probiotics and prebiotics

Andrew B. Onderdonk, Harvard Medical School, Boston, Massachusetts, United States of America
Human microbiota and microbiome in health and disease, animal models of infection, Clostridioides difficile, Bacteroides fragilis, clinical microbiology

Carlos Quesada-Gomez, University of Costa Rica, Faculty of Microbiology, San Jose, Costa Rica
Anaerobes in human disease, Animal models of infection, Antimicrobial resistance, Clostridioides difficile, Pathogenesis, Toxins

Audrey Schuetz, Mayo Clinic College of Medicine and Science, Rochester, Minnesota, United States of America
Clinical microbiology, Antimicrobial susceptibility, Antimicrobial resistance, Epidemiology, Infectious diseases pathology

Daniel Slade, Virginia Polytechnic Institute and State University, Blacksburg, Virginia, United States of America
Fusobacterium, Molecular genetics, host-pathogen interacations, cancer biology, cell signaling

Jozsef Soki, University of Szeged, Szeged, Hungary
Antimicrobial resistance mechanisms and genetics of anaerobic bacteria, especially Bacteroides spp

Kaori Tanaka, Gifu University, Gifu, Japan
Anaerobes in human diseases, clinical diagnosis of anaerobic infections, antimicrobial susceptibility

Francisco A. Uzal, University of California Davis School of Veterinary Medicine, Davis, California, United States of America
Clostridial diseases, Enteric diseases, Pathology

Alida C. M. Veloo, University of Groningen, Groningen, Netherlands
MALDI-TOF MS, Antibiotic resistance mechanisms and surveillance, Taxonomy and metagenomics.

Editorial Board

Saud Alazmi, Jaber Al Ahmed Armed Forces Hospital, Kuwait, Kuwait
Clinical microbiology, Infectious diseases
**Hrisi Bahar Tokman**, Istanbul University-Cerrahpasa, Cerrahpasa, Faculty of Medicine, Department of Medical Microbiology, Istanbul, Turkey
Anaerobic bacteria in human infections, antimicrobial resistance, gut microbiota in human diseases, methanogens in human infections, Helicobacter pylori, antimicrobial activity of new peptides, larva debridement therapy

**Eugenia Bezirtzoglou**, Democritus University of Thrace, Medical School, Laboratory of Hygiene and Environmental Protection, Alexandroupoli, Greece
Microbial ecology, gastrointestinal microbiota, food microbiology, environmental microbiology, hygiene

**Darcie Carpenter**, International Health Management Associates Inc, Schaumburg, Illinois, United States of America
Anaerobic bacterial identification, anaerobic bacterial susceptibility testing, clinical microbiology, microbiology diagnostic systems

**Bastien Castagner**, McGill University, Montréal, Quebec, Canada
Gut microbiome, Small molecules, Drug discovery, Clostridioides difficile, prebiotics

**Robert Centor**, The University of Alabama at Birmingham, Birmingham, Alabama, United States of America
F. necrophorum in clinical situations, Pharyngitis

**Akhilanand Chaurasia**, King George's Medical University, Lucknow, India
Anaerobes in human diseases, anaerobes in the microbiome, diagnosis of anaerobes in clinical microbiology laboratories, molecular biology, genetics, pathogenesis, toxins and antibiotic susceptibility of anaerobic bacteria., Oral microbiome

**Gao Chen**, The University of Tennessee Knoxville, Knoxville, Tennessee, United States of America
Microbial ecology, gastrointestinal microbiota, food microbiology, environmental microbiology, hygiene

**Marina Claros**, Leipzig University, Leipzig, Germany
Clinical microbiological/molecular diagnostics, identification/taxonomy of anaerobic bacteria, therapy for bacterial infections

**Fernando Cobo**, University Hospital Centre Virgen de las Nieves, Granada, Spain
Anaerobes, antimicrobial resistance, bacteremia

**Georg Conrads**, RWTH Aachen University, Aachen, Germany
Porphyromonas, Prevotella, Fusobacterium, odontogenic infections, periodontal diseases, microbiome

**Marcio Costa**, University of Montreal, Montréal, Quebec, Canada
Livestock animal microbiomes, Microbiota manipulation in animals

**Jacek Czepiel**, Jagiellonian University Medical College, Krakow, Poland
Clostridioides difficile infections, liver diseases

**Itaru Dekio**, The Jikei University School of Medicine, Minato-Ku, Japan
Cutibacterium, MALDI-TOF mass spectrometry

**Luc Dubreuil**, University of Lille, Faculty of Pharmacy, Lille, France
Anaerobes, antibiotic susceptibility testing, in vitro evaluation of new drugs against anaerobes, porins, antibiotic mechanism of resistance.

**Robert Fagan**, The University of Sheffield, Sheffield, United Kingdom
Clostridioides difficile, cell envelopes, S-layer, antimicrobial resistance, sporulation

**Raina Fichorova**, Harvard Medical School, Boston, Massachusetts, United States of America
Reproductive health, immunology, inflammation, vaginal microbiome, sexually transmitted organisms, miRNA, cytokines

**David Fredricks**, Fred Hutchinson Cancer Center, Seattle, Washington, United States of America
The human microbiome, uncultivated microbes, genital tract microbiota and its association with adverse health outcomes, gut microbiota of cancer patients, fungal and bacterial infections in patients with cancer

**Maria Hedberg**, Umeå University, Umeå, Sweden
Gastrointestinal microbiota, antimicrobials, antimicrobial resistance, anaerobic infections

**Sandra Janezic**, National Laboratory of Health Environment and Food, Maribor, Slovenia
C. difficile, epidemiology, molecular typing, OneHealth, WGS

**Samo Jeverica**, University of Ljubljana, Ljubljana, Slovenia
Clinical microbiology, implant-associated infections, vaginal dysbiosis, antimicrobial susceptibility testing, Cutibacterium acnes, Gardnerella vaginalis, lactobacilli

**Olivier Join-Lambert**, University of Caen Normandy, Caen, France
Epidemiology of anaerobic infections, Antimicrobial resistance, Antimicrobial susceptibility testing methods, Prevotella, microbiome, inflammatory diseases

**Ulrik S. Justesen**, Odense University Hospital, Odense, Denmark
Susceptibility testing, resistance, bacteremia, diagnostics

**Haru Kato**, National Institute of Infectious Diseases Murayama Branch, Musashimurayama, Japan
Clostridioides difficile, molecular epidemiology, laboratory testing, healthcare-associated infections
Wen-Chien W-C Ko, National Cheng Kung University Hospital Division of Infectious Diseases, Tainan, Taiwan
Microbiological and Clinical Studies Stewardship

Maximilian Kolmuss, Ludwig Maximilians University LMU University Hospital Munich, München, Germany
oral microbiology, biofilm research, interaction of bacteria with dental materials

Eija Kononen, University of Turku, TURKU, Finland
Anaerobic bacteriology, oral microbiology, periodontology

Marcela Krutova, Charles University, Second Faculty of Medicine, Praha, Czechia
Clostridioides difficile, surveillance, epidemiology, antimicrobial resistance, typing

David Leitsch, Medical University of Vienna, Wien, Austria
Antibiotic resistance molecular investigation of resistance genes anaerobic fungi and parasites, Biochemistry, anaerobic bacteria

Dena Lyras, Monash University, Clayton, Victoria, Australia
Clostridia, toxin, gut infection, antimicrobial resistance, genetics,

Michael Malamy, Tufts University School of Medicine, Boston, Massachusetts, United States of America
Microbiology, anaerobic bacteria, bacterial genetics, bacterial physiology

Helene Marchandin, University of Montpellier, Montpellier, France
Medical microbiology, taxonomy, anaerobic cocci, resistance,

Jeanne Marrazzo, The University of Alabama at Birmingham Heersink School of Medicine, Birmingham, Alabama, United States of America
biomedical HIV prevention, vaginal microbiome, sexually transmitted infections

Bruce McClane, University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania, United States of America
Microbiology, Bacterial toxins

Trefor Morris, University Hospital of Wales, Cardiff, United Kingdom
Anaerobic Bacteria, Clostridioides difficile, anaerobe Antimicrobial Susceptibility Testing (AST), anaerobe Antimicrobial Resistance, whole genome sequencing

William Navarre, University of Toronto, Toronto, Ontario, Canada
Microbiota, Genomics, Infectious disease

Mauricio Navarro, Austral University of Chile - Campus Isla Teja, Valdivia, Chile
Clostridial diseases, Pathology, Veterinary Diagnostics

Elaine de Oliveira Ferreira, Federal University of Rio de Janeiro, RIO DE JANEIRO, Brazil
Clostridioides difficile, Cutibacterium acnes, virulence, epidemiology, proteomics, genomics

Lynthia Paul, University of Cape Town, Rondebosch, South Africa
Anaerobe microbes, Cultiuroms, GIT microbiota, Antibiotic resistance, Bacteroides fragilis, Molecular diagnostics, Water

Valeria Parreira Pinto, University of Guelph, Guelph, Ontario, Canada
Closstridium perfringens, Necrotic enteritis in chicken, Anaerobic culture, Foodborne pathogens and Wastewater pathogens surveillance

Muhabat Raji, Alfaisal University, Department of Microbiology and Immunology, Riyadh, Saudi Arabia
Medical Microbiology, bacteriology, biosensors

Thomas Riley, The University of Western Australia, Perth, Western Australia, Australia
Medical microbiology, healthcare epidemiology, one health

Edson Rocha, East Carolina University, Greenville, North Carolina, United States of America
Anaerobic bacteriology, bacterial genetics and physiology, bacterial pathogenesis, Bacteroides fragilis, anaerobic infections

Blake Sanders, Dana-Farber Cancer Institute, Boston, Massachusetts, United States of America
Fusobacterium, host-pathogen interaction, anaerobic bacteriology, cancer microbiome

Krithivasan Sankaranarayanan, The University of Oklahoma, Norman, Oklahoma, United States of America
bacterial systematics and taxonomy, microbial ecology, microbiome and ancient DNA

Anna Seekatz, University of Maryland, College Park, Maryland, United States of America
Microbiome, Clostridioides difficile, commensal Clostridia, fecal microbiota transplantation, infectious diseases

Matthew Sorbara, University of Guelph, Guelph, Ontario, Canada
Lachnospiraceae, Human gut microbiome, Metabolism

Dennis Stevens, Boise VA Medical Center, Boise, Idaho, United States of America
Clostridial infections, necrotizing infections, gas gangrene, soft tissue infections, gram positive shock, role of toxins in pathogenesis of gram positive bacterial infection

Laura Sycuro, University of Calgary, Calgary, Alberta, Canada
Human fetal-maternal health and the microbiome, Metagenomics, Vaginal microbiome, Gut-brain axis and the microbiome, STI and the microbiome

Nurver Ulger Toprak, Marmara University School of Medicine, İstanbul, Turkey
Antimicrobial susceptibility and virulence characteristics of anaerobic bacteria isolated from clinical samples
Edit Urbán, University of Pécs Medical School, Department of Medical Microbiology and Immunology, Pécs, Hungary
Bacteriology, Anaerobes, Clostridioides difficile, antibiotic resistance of anaerobes, Pathogenecity of anaerobes, newly identified anaerobic bacteria

Martha Josefina Vives Florez, University of the Andes, Bogotá, Colombia
Phage therapy, Bioremediation, Phycoremediation, Microbiota

Thomas Watts, Monash University, Clayton, Australia
Clostridium perfringens, Bacterial genetics, Bacteriology, Plasmid biology and horizontal gene transfer

Scott Weese, University of Guelph, Guelph, Ontario, Canada
Veterinary microbiology, antimicrobial resistance, internal medicine, infectious diseases, zoonotic diseases,

Hannah Wexler, VA Greater Los Angeles Healthcare System, Los Angeles, California, United States of America
Bacteroides, virulence, antimicrobial resistance, CRISPR, mobile elements

Roland Wirth, University of Szeged, Department of Biotechnology, Szeged, Hungary
Biogas microbiology, microbial communities in various anaerobic environments, human microbiology, bioinformatics, metagenomics, and metatranscriptomics

Social Media Editor
Rafaela De Negri, Murray State University, Murray, Kentucky, United States of America
GUIDE FOR AUTHORS

INTRODUCTION

Anaerobe is the official journal of the Anaerobe Society of the Americas, and the Japanese Association for Anaerobic Infection Research. Anaerobe welcomes original papers on all areas of research related to biological activities in strictly anaerobic or microaerophilic environments. Studies dealing with the ecology, epidemiology, pathogenesis, or antimicrobial resistance of anaerobic microorganisms (including bacteria, protozoa, fungi, archaea) are highly encouraged for submission. The journal will consider original reports describing the roles of anaerobes in human and animal diseases, as well as work to develop vaccines against anaerobic pathogens. Manuscripts dealing with the physiology, taxonomy, systematics, molecular biology, ecology, evolution, and genetics of anaerobic microorganisms will be considered, as well as mechanistic studies of the roles of anaerobes within a given microbiome ecosystem. Studies of microaerophilic organisms, which benefit from a strictly anaerobic environment for their isolation and detailed investigation, are also of interest to our readers. Manuscripts describing innovative methodologies, technologies and applications to culture, isolate and/or identify anaerobes and microaerophiles are also of interest.

Anaerobe publishes reviews, mini-reviews, original research articles, short communication, and case reports. Relevant topics fall into the broad categories of anaerobes in human and animal diseases, including pathogenesis, toxin production and antibiotic susceptibility; diagnosis of infections, caused by anaerobes, in the clinical microbiology laboratory; mechanistic roles of anaerobes within healthy or dysbiotic microbiomes; role of anaerobes in the environment, including their function in biodegradation and biofuel production; molecular biology, genetics and physiology of anaerobes; bacteriophages of anaerobic bacteria.

In all types of manuscripts submitted to Anaerobe the text should be 12-point, double-spaced, left-justified, and page and line numbering should be used throughout the manuscript. Please remember Anaerobe does not recommend unofficial shortening of the names of microbial taxa.

Article types for Anaerobe

Reviews and mini-reviews. Proposals for reviews and mini-reviews within the topics mentioned above are welcome for consideration by the journal. Please provide a proposed title and detailed outline of the topic to be covered by e-mail to the editor-in-chief. Unsolicited reviews will not be considered. Reviews are typically 7,000 words in length including relevant tables and/or figures. Mini-reviews are typically restricted to 2,500 words in length.

Full-length research papers should report on original research within one or more of the categories listed above. A structured Abstract (divided into the following sections: objectives, methods, results, conclusions) of not more than 250 words is required, followed by sections presented as Introduction, Material and Methods, Results and Discussion. A combined Results & Discussion section may also be used. References and discussion of the literature should be directly relevant to the work. A short Conclusions section, which may either stand alone or be included as part of the Discussion, is also needed. Figures and tables should not be included in the text, but uploaded separately. The length of the research papers should not be longer that 4000 words excluding abstract and references. No more than 40 relevant references can be added.

Short communications are for presentation of brief observations on any aspects of anaerobic microorganisms not warranting a full-length publication. However, these should not be considered preliminary communications. Short Communications receive the same review process as full-length research papers and are not ordinarily expedited. Short Communications should have an unstructured Abstract of #50 words; introduction, methods, results, and discussion should be combined into a single section with no headings. No more than three figures and/or tables are permitted. Authors should refrain from adding details of materials and methods into figure legends or table footnotes. No more than 20 references should be included, and the overall length of the manuscript should add #1,500 words (without references).

Case reports. These submissions should encompass an Introduction, Mini Review of the Topic, Description of the case, and Discussion. Beside the presentation of the clinical symptoms and microbiological findings of unusual cases in human or veterinary medicine, a detailed description is needed describing how the anaerobic bacteria were isolated, identified and proven as the real
causative agents of the infection. The presentation must be preceded by a minireview (up to 2500 words) of the literature describing the background of similar cases/infections, what is known about the associated microbe, and other clinically relevant information. Manuscripts must be brief, with no more than four illustrations. A short, unstructured abstract of #100 words is needed. A short summary of similar cases (if available) should be added, with references. Only references closely related to the case should be included, and the overall length of the manuscript should be #1,500 words (without references).

All the acronyms and abbreviations used in tables and figures should be spelled out in the legends.

Please also provide Highlights for all types of manuscripts containing 3-5 bullet points (no more than 85 characters each) summarizing the main findings of the research, without use of non-standard or uncommon abbreviations.

At the end of all types of manuscripts, the following should be added: Acknowledgement (if applicable), Conflict of interest, Source of funding, Contribution of authors (see details below).

All manuscripts must be submitted through the Editorial Manager of Elsevier. Please provide a list of at least 4 potential referees, affiliated with institutions outside of the authors' local area (country). Please also provide a cover letter with your submission, clearly stating the nature of the manuscript (e.g. Full-length Research Study, Case Report), and attesting that the work is not currently under consideration by any other journal.

**Revised Submissions**
All revised submissions are subject to the same guidelines as above. In addition, authors must:
1. Give detailed responses to reviewer remarks and give the line numbers, where a change has been made in the text.
2. Highlight changes in the text

**BEFORE YOU BEGIN**
**Ethics in publishing**
Please see our information on Ethics in publishing.

**Declaration of competing interest**
All authors must disclose any financial and personal relationships with other people or organizations that could inappropriately influence (bias) their work. Examples of potential conflicts of interest include employment, consultancies, stock ownership, honoraria, paid expert testimony, patent applications/registrations, and grants or other funding. Authors should complete the declaration of competing interest statement using this template and upload to the submission system at the Attach/Upload Files step. Note: Please do not convert the .docx template to another file type. Author signatures are not required. If there are no interests to declare, please choose the first option in the template. More information.

**Declaration of generative AI in scientific writing**
The below guidance only refers to the writing process, and not to the use of AI tools to analyse and draw insights from data as part of the research process.

Where authors use generative artificial intelligence (AI) and AI-assisted technologies in the writing process, authors should only use these technologies to improve readability and language. Applying the technology should be done with human oversight and control, and authors should carefully review and edit the result, as AI can generate authoritative-sounding output that can be incorrect, incomplete or biased. AI and AI-assisted technologies should not be listed as an author or co-author, or be cited as an author. Authorship implies responsibilities and tasks that can only be attributed to and performed by humans, as outlined in Elsevier’s AI policy for authors.

Authors should disclose in their manuscript the use of AI and AI-assisted technologies in the writing process by following the instructions below. A statement will appear in the published work. Please note that authors are ultimately responsible and accountable for the contents of the work.

**Disclosure instructions**
Authors must disclose the use of generative AI and AI-assisted technologies in the writing process by adding a statement at the end of their manuscript in the core manuscript file, before the References list. The statement should be placed in a new section entitled ‘Declaration of Generative AI and AI-assisted technologies in the writing process’.

Statement: During the preparation of this work the author(s) used [NAME TOOL / SERVICE] in order to [REASON]. After using this tool/service, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content of the publication.

This declaration does not apply to the use of basic tools for checking grammar, spelling, references etc. If there is nothing to disclose, there is no need to add a statement.

**Submission declaration and verification**
Submission of an article implies that the work described has not been published previously (except in the form of an abstract, a published lecture or academic thesis, see ‘Multiple, redundant or concurrent publication’ for more information), that it is not under consideration for publication elsewhere, that its publication is approved by all authors and tacitly or explicitly by the responsible authorities where the work was carried out, and that, if accepted, it will not be published elsewhere in the same form, in English or in any other language, including electronically without the written consent of the copyright-holder. To verify compliance, your article may be checked by Crossref Similarity Check and other originality or duplicate checking software.

**Preprints**
Please note that preprints can be shared anywhere at any time, in line with Elsevier’s sharing policy. Sharing your preprints e.g. on a preprint server will not count as prior publication (see ‘Multiple, redundant or concurrent publication’ for more information).

**Preprint posting on SSRN**
In support of Open Science, this journal offers its authors a free preprint posting service. Preprints provide early registration and dissemination of your research, which facilitates early citations and collaboration.

During submission to Editorial Manager, you can choose to release your manuscript publicly as a preprint on the preprint server SSRN once it enters peer-review with the journal. Your choice will have no effect on the editorial process or outcome with the journal. Please note that the corresponding author is expected to seek approval from all co-authors before agreeing to release the manuscript publicly on SSRN.

You will be notified via email when your preprint is posted online and a Digital Object Identifier (DOI) is assigned. Your preprint will remain globally available free to read whether the journal accepts or rejects your manuscript.

For more information about posting to SSRN, please consult the SSRN Terms of Use and FAQs.

**Use of inclusive language**
Inclusive language acknowledges diversity, conveys respect to all people, is sensitive to differences, and promotes equal opportunities. Content should make no assumptions about the beliefs or commitments of any reader; contain nothing which might imply that one individual is superior to another on the grounds of age, gender, race, ethnicity, culture, sexual orientation, disability or health condition; and use inclusive language throughout. Authors should ensure that writing is free from bias, stereotypes, slang, reference to dominant culture and/or cultural assumptions. We advise to seek gender neutrality by using plural nouns (“clinicians, patients/clients”) as default/wherever possible to avoid using "he, she," or "he/she." We recommend avoiding the use of descriptors that refer to personal attributes such as age, gender, race, ethnicity, culture, sexual orientation, disability or health condition unless they are relevant and valid. When coding terminology is used, we recommend to avoid offensive or exclusionary terms such as "master", "slave", "blacklist" and "whitelist". We suggest using alternatives that are more appropriate and (self-) explanatory such as "primary", "secondary", "blocklist" and "allowlist". These guidelines are meant as a point of reference to help identify appropriate language but are by no means exhaustive or definitive.

**Reporting sex- and gender-based analyses**

**Reporting guidance**
For research involving or pertaining to humans, animals or eukaryotic cells, investigators should integrate sex and gender-based analyses (SGBA) into their research design according to funder/sponsor requirements and best practices within a field. Authors should address the sex and/or gender dimensions of their research in their article. In cases where they cannot, they should discuss this as a limitation to their research’s generalizability. Importantly, authors should explicitly state what definitions of sex and/or gender they are applying to enhance the precision, rigor and reproducibility of their research and to avoid ambiguity or conflation of terms and the constructs to which they refer (see Definitions section below). Authors can refer to the Sex and Gender Equity in Research (SAGER) guidelines and the SAGER guidelines checklist. These offer systematic approaches to the use and editorial review of sex and gender information in study design, data analysis, outcome reporting and research interpretation - however, please note there is no single, universally agreed-upon set of guidelines for defining sex and gender.

Definitions
Sex generally refers to a set of biological attributes that are associated with physical and physiological features (e.g., chromosomal genotype, hormonal levels, internal and external anatomy). A binary sex categorization (male/female) is usually designated at birth (“sex assigned at birth”), most often based solely on the visible external anatomy of a newborn. Gender generally refers to socially constructed roles, behaviors, and identities of women, men and gender-diverse people that occur in a historical and cultural context and may vary across societies and over time. Gender influences how people view themselves and each other, how they behave and interact and how power is distributed in society. Sex and gender are often incorrectly portrayed as binary (female/male or woman/man) and unchanging whereas these constructs actually exist along a spectrum and include additional sex categorizations and gender identities such as people who are intersex/have differences of sex development (DSD) or identify as non-binary. Moreover, the terms “sex” and “gender” can be ambiguous—thus it is important for authors to define the manner in which they are used. In addition to this definition guidance and the SAGER guidelines, the resources on this page offer further insight around sex and gender in research studies.

Changes to authorship
Authors are expected to consider carefully the list and order of authors before submitting their manuscript and provide the definitive list of authors at the time of the original submission. Any addition, deletion or rearrangement of author names in the authorship list should be made only before the manuscript has been accepted and only if approved by the journal Editor. To request such a change, the Editor must receive the following from the corresponding author: (a) the reason for the change in author list and (b) written confirmation (e-mail, letter) from all authors that they agree with the addition, removal or rearrangement. In the case of addition or removal of authors, this includes confirmation from the author being added or removed.

Author contributions
For transparency, we request authors to add a statement outlining their individual contributions to the paper using the relevant CRedit roles: Conceptualization; Data curation; Formal analysis; Funding acquisition; Investigation; Methodology; Project administration; Resources; Software; Supervision; Validation; Visualization; Roles/Writing - original draft; Writing - review & editing. Authorship statements should be formatted with the names of authors first and CRedit role(s) following. More details and an example. The statement should be located at the end of the text before the reference list.

Article transfer service
This journal uses the Elsevier Article Transfer Service to find the best home for your manuscript. This means that if an editor feels your manuscript is more suitable for an alternative journal, you might be asked to consider transferring the manuscript to such a journal. The recommendation might be provided by a Journal Editor, a dedicated Scientific Managing Editor, a tool assisted recommendation, or a combination. If you agree, your manuscript will be transferred, though you will have the opportunity to make changes to the manuscript before the submission is complete. Please note that your manuscript will be independently reviewed by the new journal. More information.
**Copyright**
Upon acceptance of an article, authors will be asked to complete a 'Journal Publishing Agreement' (see [more information](#) on this). An e-mail will be sent to the corresponding author confirming receipt of the manuscript together with a 'Journal Publishing Agreement' form or a link to the online version of this agreement.

Subscribers may reproduce tables of contents or prepare lists of articles including abstracts for internal circulation within their institutions. Permission of the Publisher is required for resale or distribution outside the institution and for all other derivative works, including compilations and translations. If excerpts from other copyrighted works are included, the author(s) must obtain written permission from the copyright owners and credit the source(s) in the article. Elsevier has [preprinted forms](#) for use by authors in these cases.

For gold open access articles: Upon acceptance of an article, authors will be asked to complete a 'License Agreement' ([more information](#)). Permitted third party reuse of gold open access articles is determined by the author's choice of [user license](#).

**Author rights**
As an author you (or your employer or institution) have certain rights to reuse your work. [More information](#).

*Elsevier supports responsible sharing*
Find out how you can share your research published in Elsevier journals.

**Role of the funding source**
You are requested to identify who provided financial support for the conduct of the research and/or preparation of the article and to briefly describe the role of the sponsor(s), if any, in study design; in the collection, analysis and interpretation of data; in the writing of the report; and in the decision to submit the article for publication. If the funding source(s) had no such involvement, it is recommended to state this.

**Open access**
Please visit our [Open Access page](#) for more information about open access publishing in this journal.

**English language**
Anaerobe can only consider manuscripts for publication that are grammatically correct and as far as possible, free from typos and other spelling errors. If English is not the first language of the authors, in order to avoid delays in the manuscript review process and to reduce the burden of work on reviewers, it is strongly suggested that an English proof reading service, such as that provided by Elsevier ([https://webshop.elsevier.com/language-editing/](https://webshop.elsevier.com/language-editing/)) is used. Your manuscript may be rejected before review if there are significant grammatical and spelling errors that preclude understanding of the work.

**PREPARATION**

**Queries**
For questions about the editorial process (including the status of manuscripts under review) or for technical support on submissions, please visit our [Support Center](#).

**SUBMISSIONS**
Submission to this journal proceeds totally online through the [Editorial Manager](#) and you will be guided stepwise through the creation and uploading of your files. Tables and Figures should be uploaded separately, and not included into the text. The system automatically converts your files to a single PDF file, which is used in the peer-review process.

As part of the Your Paper Your Way service, you may choose to submit your manuscript as a single file to be used in the refereeing process. This can be a PDF file or a Word document, in a format laid out below. It should contain high enough quality figures for refereeing. If you prefer to do so, you may still provide all or some of the source files at the initial submission. Please note that individual figure files larger than 10 MB must be uploaded separately.
References
There are no strict requirements on reference formatting at submission. References can be in any style or format as long as the style is consistent. Where applicable, author(s) name(s), journal title/book title, chapter title/article title, year of publication, volume number/book chapter and the article number or pagination must be present. Use of DOI is highly encouraged. The reference style used by the journal will be applied to the accepted article by Elsevier at the proof stage. Note that missing data will be highlighted at proof stage for the author to correct.

Important Formatting requirements
There are minimal article formatting requirements for new submissions. Text should be 12 point, double-spaced, and left-justified. Number all pages in sequence, including the abstract, figure legends, and tables at the end of the manuscript. Please ensure that you include continues line numbering throughout the manuscript. Latin names, such as genus and species names, should be italicized. Please ensure the figures and the tables are placed in order of appearance at the end of the article. If your article includes any Videos and/or other Supplementary material, this should be included in your initial submission for peer review purposes.

Word processing software should be used to submit an article in editable file format. Keep the layout of the text as simple as possible. Most formatting codes will be removed and replaced on processing the article. The electronic text should be prepared in a way very similar to that of conventional manuscripts (see also the Guide to Publishing with Elsevier: https://www.elsevier.com/guidepublication). See also the section on Electronic artwork. To avoid unnecessary errors, you are strongly advised to use the 'spell-check' and 'grammar-check' functions of your word processor.

Peer review
This journal operates a single anonymized review process. All contributions will be initially assessed by the editor for suitability for the journal. Papers deemed suitable are then typically sent to a minimum of two independent expert reviewers to assess the scientific quality of the paper. The Editor is responsible for the final decision regarding acceptance or rejection of articles. The Editor's decision is final. Editors are not involved in decisions about papers which they have written themselves or have been written by family members or colleagues or which relate to products or services in which the editor has an interest. Any such submission is subject to all of the journal's usual procedures, with peer review handled independently of the relevant editor and their research groups. More information on types of peer review.

The following summary describes the peer review process for this journal:
Identity transparency: Single anonymized
Reviewer interacts with: Editor
Review information published: None
Post publication commenting: None
By using standard terminology we aim to help make the peer review process for articles and journals more transparent, and enable the community to better assess and compare peer review practices between different journals. More information is available here.

Use of word processing software
Word processing software should be used to submit an article in editable file format. Keep the layout of the text as simple as possible. Most formatting codes will be removed and replaced on processing the article. The electronic text should be prepared in a way very similar to that of conventional manuscripts (see also the Guide to Publishing with Elsevier: https://www.elsevier.com/guidepublication). See also the section on Electronic artwork. To avoid unnecessary errors you are strongly advised to use the 'spell-check' and 'grammar-check' functions of your word processor.

Article structure
Structure of full-length research articles
Title page

Title. Should be concise and informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible.

Author names and affiliations. Please clearly indicate the given name(s) and family name(s) of each author and check that all names are accurately spelled. You can add your name between parentheses in your own script behind the English transliteration. Present the authors' affiliation addresses (where the actual work was done) below the names. Indicate all affiliations with a lower-
case superscript letter immediately after the author's name and in front of the appropriate address. Provide the full postal address of each affiliation, including the country name, and the e-mail address of each author.

**Corresponding author.** Clearly indicate who will handle correspondence at all stages of refereeing and publication, also post-publication. This responsibility includes answering any future queries about materials and methods. Ensure that the e-mail address is given and that contact details are kept up to date by the corresponding author.

**Present/permanent address.** If an author has moved since the work described in the article was done, or was visiting at the time, a 'Present address' (or 'Permanent address') may be indicated as a footnote to that author's name. The address at which the author actually did the work must be retained as the main, affiliation address. Superscript Arabic numerals are used for such footnotes.

**Highlights** are mandatory for the journal Anaerobe as they help increase the discoverability of your article via search engines. They consist of a short collection of bullet points that capture the novel results of your research as well as new methods that were used during the study (if any). Please have a look at the examples here: example Highlights. Highlights should be submitted in a separate editable file in the online submission system. Please use 'Highlights' in the file name and include 3 to 5 bullet points (maximum 85 characters, including spaces, per bullet point).

**Abstract:** A concise and factual abstract is required. The abstract should state briefly the purpose of the research, the principal results and major conclusions. An abstract is often presented separately from the article, so it must be able to stand alone. For this reason, references should be avoided, but if essential, then cite the author(s) and year(s). Also, non-standard or uncommon abbreviations should be avoided, but if essential they must be defined at their first mention in the abstract itself. **Full-length research papers** need a structured abstract for Short Communications and Case Reports non-structured abstract is needed. See details earlier.

**Keywords:** Immediately after the abstract, provide a maximum of 6 keywords, using American spelling and avoiding general and plural terms and multiple concepts (avoid, for example, 'and', 'of'). Be sparing with abbreviations: only abbreviations firmly established in the field may be eligible. These keywords will be used for indexing purposes.

**Introduction:** State the objectives of the work and provide an adequate background, avoiding a detailed literature survey or a summary of the results.

**Materials and methods:** Provide sufficient detail to allow the work to be reproduced. If methods have been previously published, they should be described briefly and then referenced. Relevant modifications should be described. Please formulate subsections if needed.

**Results:** The section should be clear and concise may be divided in subsections demonstrated by data collected in tables and figures.

**Discussion:** This should explore the significance of the results of the work (compared with the published results of other authors working on the same field), but not repeat results described in the previous section. A combined Results & Discussion section can also be appropriate. Avoid extensive citations and discussion of published literature.

**Conclusions:** The main conclusions of the study may be presented in a short Conclusions section, which may stand alone or form a subsection of a Discussion or the combined Results & Discussion section.

**References:** There are no strict requirements on reference formatting at submission. References can be in any style or format as long as the style is consistent. Where applicable, author(s) name(s), journal title/book title, chapter title/article title, year of publication, volume number/book chapter and the article number or pagination must be present. Use of DOI is highly encouraged. The reference style used by the journal will be applied to the accepted article by Elsevier at the proof stage. Note that missing data will be highlighted at proof stage for the author to correct. See below in details.
Appendices
If there is more than one appendix, they should be identified as A, B, etc. Formulae and equations in appendices should be given separate numbering: Eq. (A.1), Eq. (A.2), etc.; in a subsequent appendix, Eq. (B.1) and so on. Similarly for tables and figures: Table A.1; Fig. A.1, etc.

Graphical abstract
Although a graphical abstract is optional, its use is encouraged as it draws more attention to the online article, however graphical abstract should be used only if it really can give understandable information about the experiments and summarize the contents of the article in a concise, pictorial form designed to capture the attention of a wide readership. See https://www.elsevier.com/graphicalabstracts for examples.

Abbreviations
Define abbreviations that are not standard in this field in a footnote to be placed on the first page of the article. Such abbreviations that are unavoidable in the abstract must be defined at their first mention there, as well as in the footnote. Ensure consistency of abbreviations throughout the article. Do not use unaccepted abbreviation of bacterial names!

Acknowledgements
Collate acknowledgements in a separate section at the end of the article before the references and do not include them on the title page. List here those individuals who provided help during the research (e.g., providing language help, writing assistance or proof reading the article, etc.).

Formatting of funding sources
List funding sources in this standard way to facilitate compliance to funder's requirements:

Funding: This work was supported by the National Institutes of Health [grant numbers xxxx, yyyy]; the Bill & Melinda Gates Foundation, Seattle, WA [grant number zzzz]; and the United States Institutes of Peace [grant number aaaa].

It is not necessary to include detailed descriptions on the program or type of grants and awards. When funding is from a block grant or other resources available to a university, college, or other research institution, submit the name of the institute or organization that provided the funding.

If no funding has been provided for the research, it is recommended to include the following sentence:

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Units
Follow internationally accepted rules and conventions: use the international system of units (SI). If other units are mentioned, please give their equivalent in SI.

Nomenclature of Microorganisms
The complete Latin name (genus, species, authority, together with cultivar, strain or culture number where appropriate) should be cited for every organism at first mention. Thereafter the generic name may be abbreviated to the initial except where this could cause confusion. No further abbreviation is permitted.

Bacterial names with standing in nomenclature can be found online at the List of Prokaryotic Names with Standing in Nomenclature (LPSN) http://www.bacterio.cict.fr. The official name of the bacterium should be written in full first time (e.g. Fusobacterium necrophorum), and its official short form should be used throughout the manuscript afterwards (F. necrophorum). To use a name without standing in nomenclature, write the name in quotation marks within the title and abstract, and throughout the text including an explanation.

Standard genetic nomenclature is to be used and any deviations should be endorsed by an appropriate authoritative body.

Footnotes
Footnotes should be used sparingly. Number them consecutively throughout the article. Many word processors build footnotes into the text, and this feature may be used. Should this not be the case, indicate the position of footnotes in the text and present the footnotes themselves separately at the end of the article.
Artwork
Illustrations and figures

Electronic artwork

General points Make sure you use uniform lettering (e.g. Arial, Courier, Times New Roman) and sizing of your original illustrations. Number the illustrations/figures according to their sequence in the text. Use a logical naming convention for your figure files. Provide titles to illustrations/figures separately. Size the illustrations close to the desired dimensions of the published version. Indicate per figure if it is a single, 1.5 or 2-column fitting image. Submit each illustration as a separate file. Please note that individual figure files larger than 10 MB must be provided in separate source files.

A detailed guide on electronic artwork is available. You are urged to visit this site; some excerpts from the detailed information are given here Formats

Regardless of the application used, when your electronic artwork is finalized, please 'save as' or convert the images to one of the following formats (note the resolution requirements for line drawings, halftones, and line/halftone combinations given below):

EPS (or PDF): Vector drawings. Embed the font or save the text as 'graphics'.

TIFF (or JPG): Color or grayscale photographs (halftones): always use a minimum of 300 dpi.

TIFF (or JPG): Bitmapped line drawings: use a minimum of 1000 dpi.

TIFF (or JPG): Combinations bitmapped line/half-tone (color or grayscale): a minimum of 500 dpi is required.

Please do not supply files that are optimized for screen use (e.g., GIF, BMP, PICT, WPG); the resolution is too low, and that are too low in resolution. Do not submit graphics that are disproportionately large for the content!!

Color artwork
Please make sure that artwork files are in an acceptable format (TIFF (or JPEG), EPS (or PDF), or MS Office files) and with the correct resolution. If, together with your accepted article, you submit usable color figures then Elsevier will ensure, at no additional charge, that these figures will appear in color online (e.g., ScienceDirect and other sites) regardless of whether or not these illustrations are reproduced in color in the printed version. For color reproduction in print, you will receive information regarding the costs from Elsevier after receipt of your accepted article. Please indicate your preference for color: in print or online only. Further information on the preparation of electronic artwork.

Figure captions
Ensure that each illustration has a caption. A caption should comprise a brief title (not on the figure itself) and a description of the illustration. Keep text in the illustrations themselves to a minimum but explain all symbols and abbreviations used.

Tables
Please submit tables as editable text and not as images. Tables should be added on separate page(s) at the end. Number tables consecutively in accordance with their appearance in the text and place any table notes below the table body. Be sparing in the use of tables and ensure that the data presented in them do not duplicate results described elsewhere in the article. Please avoid using vertical rules.

References
Citation in text
Please ensure that every reference cited in the text is also present in the reference list (and vice versa). Any references cited in the abstract must be given in full. Unpublished results and personal communications are not recommended in the reference list, but may be mentioned in the text. If these references are included in the reference list they should follow the standard reference style of the journal and should include a substitution of the publication date with either 'Unpublished results' or 'Personal communication'. Citation of a reference as 'in press' implies that the item has been accepted for publication.
**Reference links**

Increased discoverability of research and high quality peer review are ensured by online links to the sources cited. In order to allow us to create links to abstracting and indexing services, such as Scopus, CrossRef and PubMed, please ensure that data provided in the references are correct. Please note that incorrect surnames, journal/book titles, publication year and pagination may prevent link creation. When copying references, please be careful as they may already contain errors. Use of the DOI is highly encouraged.

A DOI is guaranteed never to change, so you can use it as a permanent link to any electronic article. An example of a citation using DOI for an article not yet in an issue is: VanDecar J.C., Russo R.M., James D.E., Ambeh W.B., Franke M. (2003). Aseismic continuation of the Lesser Antilles slab beneath northeastern Venezuela. Journal of Geophysical Research, https://doi.org/10.1029/2001JB000884. Please note the format of such citations should be in the same style as all other references in the paper.

**Web references**

As a minimum, the full URL should be given and the date when the reference was last accessed. Any further information, if known (DOI, author names, dates, reference to a source publication, etc.), should also be given. Web references can be listed separately (e.g., after the reference list) under a different heading if desired, or can be included in the reference list.

**Data references**

This journal encourages you to cite underlying or relevant datasets in your manuscript by citing them in your text and including a data reference in your Reference List. Data references should include the following elements: author name(s), dataset title, data repository, version (where available), year, and global persistent identifier. Add [dataset] immediately before the reference so we can properly identify it as a data reference. The [dataset] identifier will not appear in your published article.

**Preprint references**

Where a preprint has subsequently become available as a peer-reviewed publication, the formal publication should be used as the reference. If there are preprints that are central to your work or that cover crucial developments in the topic, but are not yet formally published, these may be referenced. Preprints should be clearly marked as such, for example by including the word preprint, or the name of the preprint server, as part of the reference. The preprint DOI should also be provided.

**References in a special issue**

Please ensure that the words 'this issue' are added to any references in the list (and any citations in the text) to other articles in the same Special Issue.

**Reference management software**

Most Elsevier journals have their reference template available in many of the most popular reference management software products. These include all products that support Citation Style Language styles, such as Mendeley. Using citation plug-ins from these products, authors only need to select the appropriate journal template when preparing their article, after which citations and bibliographies will be automatically formatted in the journal’s style. If no template is yet available for this journal, please follow the format of the sample references and citations as shown in this Guide. If you use reference management software, please ensure that you remove all field codes before submitting the electronic manuscript. More information on how to remove field codes from different reference management software.

**Reference formatting**

There are no strict requirements on reference formatting at submission. References can be in any style or format as long as the style is consistent. Where applicable, author(s) name(s), journal title/book title, chapter title/article title, year of publication, volume number/book chapter and the article number or pagination must be present. Use of DOI is highly encouraged. The reference style used by the journal will be applied to the accepted article by Elsevier at the proof stage. Note that missing data will be highlighted at proof stage for the author to correct. If you do wish to format the references yourself they should be arranged according to the following examples:

**Reference style**

- **Text**: Indicate references by number(s) in square brackets in line with the text. The actual authors can be referred to, but the reference number(s) must always be given.

  Example: ‘..... as demonstrated [3,6]. Barnaby and Jones [8] obtained a different result ....’

- **List**: Number the references (numbers in square brackets) in the list in the order in which they appear in the text.
Examples:
Reference to a journal publication:
Reference to a journal publication with an article number:
Reference to a book:
Reference to a chapter in an edited book:
Reference to a website:
Reference to a dataset:
Reference to software:

Journal abbreviations source
Journal names should be abbreviated according to the List of Title Word Abbreviations.

Video
Elsevier accepts video material and animation sequences to support and enhance your scientific research. Authors who have video or animation files that they wish to submit with their article are strongly encouraged to include links to these within the body of the article. This can be done in the same way as a figure or table by referring to the video or animation content and noting in the body text where it should be placed. All submitted files should be properly labeled so that they directly relate to the video file's content. In order to ensure that your video or animation material is directly usable, please provide the file in one of our recommended file formats with a preferred maximum size of 150 MB per file, 1 GB in total. Video and animation files supplied will be published online in the electronic version of your article in Elsevier Web products, including ScienceDirect. Please supply 'stills' with your files: you can choose any frame from the video or animation or make a separate image. These will be used instead of standard icons and will personalize the link to your video data. For more detailed instructions please visit our video instruction pages. Note: since video and animation cannot be embedded in the print version of the journal, please provide text for both the electronic and the print version for the portions of the article that refer to this content.

Supplementary material
Supplementary material such as applications, images and sound clips, can be published with your article to enhance it. Submitted supplementary items are published exactly as they are received (Excel or PowerPoint files will appear as such online). Please submit your material together with the article and supply a concise, descriptive caption for each supplementary file. If you wish to make changes to supplementary material during any stage of the process, please make sure to provide an updated file. Do not annotate any corrections on a previous version. Please switch off the 'Track Changes' option in Microsoft Office files as these will appear in the published version.

Research data
This journal requires and enables you to share data that supports your research publication where appropriate, and enables you to interlink the data with your published articles. Research data refers to the results of observations or experimentation that validate research findings, which may also include software, code, models, algorithms, protocols, methods and other useful materials related to the project.
Below are a number of ways in which you can associate data with your article or make a statement about the availability of your data when submitting your manuscript. When sharing data in one of these ways, you are expected to cite the data in your manuscript and reference list. Please refer to the "References" section for more information about data citation. For more information on depositing, sharing and using research data and other relevant research materials, visit the research data page.

Data linking
If you have made your research data available in a data repository, you can link your article directly to the dataset. Elsevier collaborates with a number of repositories to link articles on ScienceDirect with relevant repositories, giving readers access to underlying data that gives them a better understanding of the research described.

There are different ways to link your datasets to your article. When available, you can directly link your dataset to your article by providing the relevant information in the submission system. For more information, visit the database linking page.

For supported data repositories a repository banner will automatically appear next to your published article on ScienceDirect.

In addition, you can link to relevant data or entities through identifiers within the text of your manuscript, using the following format: Database: xxxx (e.g., TAIR: AT1G01020; CCDC: 734053; PDB: 1XFN).

Research Elements
This journal enables you to publish research objects related to your original research – such as data, methods, protocols, software and hardware – as an additional paper in a Research Elements journal.

Research Elements is a suite of peer-reviewed, open access journals which make your research objects findable, accessible and reusable. Articles place research objects into context by providing detailed descriptions of objects and their application, and linking to the associated original research articles. Research Elements articles can be prepared by you, or by one of your collaborators.

During submission, you will be alerted to the opportunity to prepare and submit a manuscript to one of the Research Elements journals.

More information can be found on the Research Elements page.

Data statement
To foster transparency, we encourage you to state the availability of your data in your submission. This may be a requirement of your funding body or institution. If your data is unavailable to access or unsuitable to post, you will have the opportunity to indicate why during the submission process, for example by stating that the research data is confidential. The statement will appear with your published article on ScienceDirect. For more information, visit the Data Statement page.

AFTER ACCEPTANCE

Online proof correction
To ensure a fast publication process of the article, we kindly ask authors to provide us with their proof corrections within two days. Corresponding authors will receive an e-mail with a link to our online proofing system, allowing annotation and correction of proofs online. The environment is similar to MS Word: in addition to editing text, you can also comment on figures/tables and answer questions from the Copy Editor. Web-based proofing provides a faster and less error-prone process by allowing you to directly type your corrections, eliminating the potential introduction of errors.

If preferred, you can still choose to annotate and upload your edits on the PDF version. All instructions for proofing will be given in the e-mail we send to authors, including alternative methods to the online version and PDF.

We will do everything possible to get your article published quickly and accurately. Please use this proof only for checking the typesetting, editing, completeness and correctness of the text, tables and figures. Significant changes to the article as accepted for publication will only be considered at this stage with permission from the Editor. It is important to ensure that all corrections are sent back to us in one communication. Please check carefully before replying, as inclusion of any subsequent corrections cannot be guaranteed. Proofreading is solely your responsibility.
**Offprints**
The corresponding author will, at no cost, receive a customized Share Link providing 50 days free access to the final published version of the article on ScienceDirect. The Share Link can be used for sharing the article via any communication channel, including email and social media. For an extra charge, paper offprints can be ordered via the offprint order form which is sent once the article is accepted for publication. Corresponding authors who have published their article gold open access do not receive a Share Link as their final published version of the article is available open access on ScienceDirect and can be shared through the article DOI link.

**AUTHOR INQUIRIES**
Visit the Elsevier Support Center to find the answers you need. Here you will find everything from Frequently Asked Questions to ways to get in touch. You can also check the status of your submitted article or find out when your accepted article will be published.

© Copyright 2018 Elsevier | https://www.elsevier.com