

ISSN 2683-7595 (print) - ISSN 2683-7951 (online)

Marine and
Fishery Sciences
MAFIS

formerly *Revista de Investigación
y Desarrollo Pesquero*

Vol. 37 (4), October-December 2024



Mar del Plata, Argentina

Journal of the
INIDEP
INSTITUTO NACIONAL DE INVESTIGACIÓN
Y DESARROLLO PESQUERO

Marine and Fishery Sciences

Formerly *Revista de Investigación y Desarrollo Pesquero*

Marine and Fishery Sciences (MAFIS) is an Open Access charge-free journal edited by the Instituto Nacional de Investigación y Desarrollo Pesquero (INIDEP) that publishes peer-reviewed articles of original investigations not published elsewhere except as a brief abstract in a scientific meeting or symposium. It is published three times a year (January, May and September) aiming all work and studies on applied or scientific research in marine, coastal and brackish waters, such as Fisheries, Aquaculture, Biology, Ecology, Biodiversity, Oceanography, Coastal Management, Ecosystems, as well as their social-related aspects that directly or indirectly affect to human populations, including conservation and environmental impact. Freshwater content is restricted to Fisheries and Aquaculture production. The quality of the journal is guaranteed by the Editorial Board, consisting of renowned researchers in the field of marine sciences. MAFIS publishes research in English and Spanish of authors from different parts of the world to make its findings available to a wide community by publishing content on this platform. We adhere to the belief of making these contents openly available to the scientific community thus contributing to human and scientific development. Please read the instructions for brief details on the journal's requirements for manuscripts visiting the journal website <https://ojs.inidep.edu.ar> for full and updated Author Guidelines.

Editor-in-Chief

Eddie O. Aristizabal Abud

(Instituto Nacional de Investigación y Desarrollo Pesquero, Universidad Nacional de Mar del Plata, Argentina)

Editorial Board

Hugo G. Arancibia Farias (Universidad de Concepción, Chile)
Francisco Arreguín Sánchez (Instituto Politécnico Nacional, Centro Interdisciplinario de Ciencias Marinas, Mexico)
Federico Bernasconi (Subsecretaría de Pesca y Acuicultura, Ministerio de Economía, Argentina)
Martín Bessonart (Universidad de República, Uruguay)
Alvar Carranza (Museo Nacional de Historia Natural, Universidad de la República, Uruguay)
Henrique Cabral (Institut National de Recherche pour l'Agriculture, l'Alimentation et l'Environnement, France)
Jorge P. Castello (Universidade Federal do Rio Grande, Brazil)
Pedro R. Castillo Valderrama (Instituto del Mar del Perú, Perú)
Dario C. Colautti (Instituto De Limnología "Dr. Raúl A. Ringuelet", Argentina)
Francisco J. Contreras Mejias (Instituto de Fomento Pesquero, Chile)
Edilmar Cortés Jacinto (Centro de Investigaciones Biológicas del Noroeste S.C., Mexico)
Luis Cubillos (Universidad de Concepción, Chile)
Juan M. Estrada Arias (Universidad Andrés Bello, Chile)
Nidia N. Fabré (Universidade Federal de Alagoas, Brazil)
Diego A. Giberto (Instituto Nacional de Investigación y Desarrollo Pesquero, Consejo Nacional de Investigaciones Científicas y Técnicas, Argentina)
Raúl González (Universidad Nacional de Comahue, Consejo Nacional de Investigaciones Científicas y Técnicas, Argentina)
Manuel Haimovici (Universidade Federal do Rio Grande, Brazil)
Marcela Ivanovic (Instituto Nacional de Investigación y Desarrollo Pesquero, Argentina)
Andrea López Cazorla (Universidad Nacional del Sur, Consejo Nacional de Investigaciones Científicas y Técnicas, Argentina)
Juan J. López Gappa (Museo Argentino de Ciencias Naturales "Bernardino Rivadavia", Argentina)
Estela Lopretto (Universidad Nacional de La Plata, Argentina)
Gustavo Lovrich (Centro Austral de Investigaciones Científicas,

Consejo Nacional de Investigaciones Científicas y Técnicas, Argentina)
Alfonso Mardones Lazcano (Universidad Católica de Temuco, Chile)
Alejandro S. Mechaly (Instituto de Investigaciones en Biodiversidad y Biotecnología, Consejo Nacional de Investigaciones Científicas y Técnicas, Argentina)
Fernando R. Momo (Universidad Nacional de General Sarmiento, Argentina)
Nora Montoya (Instituto Nacional de Investigación y Desarrollo Pesquero, Argentina)
Pablo Muniz Maciel (Universidad de la República, Uruguay)
Alexei M. Orlov (Shirshov Institute of Oceanology, Russian Academy of Sciences, Russia)
Nicolás Ortiz (Instituto de Biología de Organismos Marinos, Nacional de Investigaciones Científicas y Técnicas, Universidad Tecnológica Nacional, Argentina)
Juan P. Pisoni (Centro para el Estudio de Sistemas Marinos, Centro Nacional Patagónico, Consejo Nacional de Investigaciones Científicas y Técnicas, Argentina)
Juan C. Quiroz Espinosa (Facile Visual, Chile)
Lila Ricci (Universidad Nacional de Mar del Plata, Argentina)
María Salhi (Universidad de la República, Uruguay)
Gaspar Soria (Centro Nacional Patagónico, Consejo Nacional de Investigaciones Científicas y Técnicas, Argentina)
Rolando E. Vega Aguayo (Universidad Católica de Temuco, Chile)
Natalia Venturini (Universidad de la República, Uruguay)
Marisa B. Villian (Instituto Nacional de Tecnología Industrial, Argentina)
Timothy Ward (Institute for Marine and Antarctic Studies, University of Tasmania, Australia)
Gabriela Williams (Centro para el Estudio de Sistemas Marinos, Centro Nacional Patagónico, Consejo Nacional de Investigaciones Científicas y Técnicas, Argentina)
Serdar Yedier (Ordu University, Turkey)

Secretary

Paula E. Israilson

Deseamos canje con publicaciones similares
Desejamos permutar com as publicações congeneres
On prie l'échange des publications
We wish to establish exchange of publications
Austausch erwünscht

INSTITUTO NACIONAL DE INVESTIGACIÓN Y DESARROLLO PESQUERO (INIDEP),
Paseo Victoria Ocampo N° 1, Escollera Norte, B7602HSA - Mar del Plata, ARGENTINA
Tel.: 54-223-486 2586; Fax: 54-223-486 1830; E-mail: c-editor@inidep.edu.ar
Printed in Argentine - ISSN 2683-7595 (print), ISSN 2683-7951 (online)

ISSN 2683-7595 (print)
ISSN 2683-7951 (online)

Journal of the
**Instituto Nacional de Investigación y Desarrollo Pesquero
(INIDEP)**



**Ministerio
de Economía**
República Argentina

**Secretaría de Agricultura,
Ganadería y Pesca**

República Argentina

Open Access. This Journal offers authors an Open Access policy. Users are allowed to read, download, copy, distribute, print, search, or link to the full texts of the articles, or use them for any other lawful purpose, without asking prior permission from the publisher or the author. This is in accordance with the BOAI definition of Open Access.



All content in this journal is distributed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.

ISSN 2683-7595 (print), ISSN 2683-7951 (online)

First edition: October-December 2024

First print: 250 copies

Printed in Argentina

Layout and design: Paula E. Israilson

Printed by INIDEP, Paseo Victoria Ocampo N° 1, Escollera Norte, B7602HSA - Mar del Plata, October 2024.

Marine and Fishery Sciences Vol. 37 (4)

Mar del Plata, República Argentina

Cover: Juvenile *Enteroctopus megalocyathus*. Photo courtesy of Nicolás Battini.

Indexed or abstracted in: Agrindex; AquaDocs; Aquatic Sciences and Fisheries Abstracts (ASFA); BASE; CORE; Crossref; Dimensions; Directory of Open Access Journals (DOAJ); Google Scholar; Núcleo Básico de Revistas Científicas Argentinas (NBRA), Red Iberoamericana de Conocimiento Científico (REDIB); WorldCat; Zoological Record (BIODOSIS Databases); among others.

Open Access download also at: MarAbierto INIDEP Institutional E-Repository <http://marabierto.inidep.edu.ar>;
AquaDocs E-Repository of Ocean Publications <https://aquadocs.org/handle/1834/1355>

Disclaimer. The Publisher and Editors cannot be held responsible for errors or any consequences arising from the use of information contained in this journal; the views and opinions expressed do not necessarily reflect those of the Publisher and Editors. Likewise, the reference made to trademarks is only circumstantial and does not imply, as far as INIDEP is concerned, any kind of recommendation or evaluation of the product in question or the manufacturing company.

Marine and Fishery Sciences

Vol. 37 (4), October-December 2024

AUTHOR GUIDELINES

GENERAL CONSIDERATIONS

Peer review

This Journal operates a double blind review process. All contributions will be initially assessed by the editor for suitability for the journal. Papers deemed suitable are then typically sent to three 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.

Use of word processing software

It is important that the file be saved in a format compatible with Microsoft Word 2003-2007 processor. The texts should be in single-column form line-numbered. Keep the layout of the text as simple as possible. When preparing tables, if you are using a table grid, use only one grid for each individual table and not a grid for each row. If no grid is used, use tabs, not spaces, to align columns. Source files of figures, tables and text graphics may be required for final formatting.

Structure

Manuscript should be arranged in the following order: **Title page** should include a Running Head with no more than 50 characters, Title, Author(s), Affiliation, Address(es), e-mail and telephone from the corresponding author; **Abstract page** with an Abstract not exceeding 200 words, and up to six Key words; **Main text** should include an Introduction, Materials and Methods, Results, Discussion, Acknowledgements, References, Figure Legends, Tables, Figures and Appendices. If work is written in Spanish, please provide an Abstract and key words in English also. Please follow the Aquatic Science & Fisheries Thesaurus (<https://agrovoc.fao.org/skosmosAsfa/asfa/es/?clang=en>) for guidance.

Submission

Original manuscript for consideration including text, tables and figures should be uploaded to MAFIS (<https://ojs.inidep.edu.ar>) previous registration. If any problem uploading submission, please contact Editorial Committee (c-editor@inidep.edu.ar). All correspondence, including notification of the Editor's decision and requests for revision, is sent by e-mail. Please suggest the names, institutions and e-mail addresses of up to four potential reviewers from different countries in the research field of the paper. The works that do not adapt to the standards set by the Editorial Committee will not be considered.

Papers must be original contributions written in Spanish or English. The text will be typed double-spaced on A4 sheets of white paper, Times New Roman typography, body 11 points, with numbered lines are encouraged.

For the use of abbreviations and units the Typographic Code adopted by the FAO and the International System of Units (SI) must be followed (<http://physics.nist.gov/cuu/Units/units.html>).

Tables, figures and photographs

Tables and figures will be presented individually with their respective epigraphs in Times New Roman typography. All figures must be provided in electronic format. Please save vector graphics (e.g. line artwork) in Encapsulated Postscript Format (EPS) and bitmap files (e.g. halftones) or clinical or in vitro pictures in Tagged Image Format (TIFF). Further information can be obtained at the Journal website <https://ojs.inidep.edu.ar>.

REFERENCES

The Council of Scientific Editors (CSE) citation style should be followed: *Name-Year (N-Y) system (Scientific style and format: the CSE manual for authors, editors, and publishers. 2014. 8th ed. Chicago (IL): University of Chicago Press).*

ACCEPTANCE OF A MANUSCRIPT FOR PUBLICATION

Authors submitting a paper do so on the understanding that the work has not been published before, is not being considered for publication elsewhere and has been read and approved by all authors. Proofs will be sent via e-mail as an Acrobat PDF (portable document format) file. The e-mail server must be able to accept attachments up to 4 MB in size. Corrections must be returned within one week of receipt.

Contents

Original research papers

Nutritional characterization of *Trachurus lathami* discarded by the Argentine fishing industry: first step towards the sustainable valorization of the species 525
Francesca M. Mitton, Marina Vittone, Brenda Temperoni and Agueda E. Massa

Changes on quality parameters and sensory attributes of the Patagonian red octopus (*Enteroctopus megalocyathus*) meat under different postharvest treatments 537
Jimena B. Dima, Martina V. Fiedorowicz Kowal, Jorge Castañeda and Nicolás Ortiz

Floating marine debris in two pelagic ecosystems of the southwestern Atlantic off Argentina 551
Gisela V. Giardino, Pablo Denuncio, Antonella D. Padula, Julian Bastida, M. Agustina Mandiola and Juan Pablo Seco Pon

Morphological, chemical and growth patterns characterization in shells of *Phorcus* species along the northeastern coasts of Tunisia 567
Wafa Boulajfene, Vassiliki-Angelique Catsiki and Sabiha Tlig-Zouari

Identifying vulnerable marine ecosystems from imagery in the Uruguayan continental shelf 583
Alvar Carranza, Pablo Limóni, Rodrigo Gurdek-Bas, Agustín Loureiro, Hernán Pérez Orsi, Aitor Azcárate, Sofia Santos and Pablo Muniz

Women's participation, challenges and problems encountered in major fish markets during the COVID-19 pandemic in Davao, Philippines 593
Erna S. Macusi, Ivy M. Nallos, Charlen Mae G. Canales, Michael Jeriel I. Bersaldo and Edison D. Macusi

Recirculating aquaculture systems affects hematological parameters and increases ectoparasite susceptibility in Nile tilapia *Oreochromis niloticus* 609
Rodrigo Stallbohm, Marco Shizuo Owatari, Evoy Zaniboni-Filho and Maurício Laterça Martins

Aplicación de la ley de Benford a la pesquería argentina de corvina rubia (*Micropogonias furnieri*) 619
Sebastián García, Julieta S. Rodríguez y Bruno V. Menna

Review

Ecological implications of unintentional aquaculture escapees: an overview of risks, remediation strategies and knowledge gaps in the aquaculture sector of India and riparian East African countries 633
Mahadevan Harikrishnan, Fredrick Juma Syanya, A. R. Nikhila Khanna, Paul Mumina and Wilson M. Mathia

Note

Occurrence of the Blue button *Porpita porpita* along the Italian Ionian and Tyrrhenian coasts 667
Antonio O. Lillo, Gianvito D'Orlando, Giovanna Filippo, Antonella D'Amore, Salvatore Longo, Achille Palma and Teresa Trabace