

Editorial: Twenty years of the *Latin American Journal of Aquatic Mammals*

Daniel Gonzalez-Socoloske¹, Nataly Castelblanco-Martinez², Carolina Loch³,
Aldo S. Pacheco⁴, and Miriam Marmontel⁵

¹Department of Biology, Andrews University, Berrien Springs, USA

²Conacyt/Universidad Autónoma del Estado de Quintana Roo, Mexico

³Sir John Walsh Research Institute, Faculty of Dentistry, University of Otago, Dunedin, New Zealand

⁴Universidad Nacional Mayor de San Marcos, Facultad de Ciencias Biológicas, Lima, Peru

⁵Instituto de Desenvolvimento Sustentável Mamirauá, Tefé, Brazil

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As we begin a new year, we want to celebrate the 20th anniversary of the *Latin American Journal of Aquatic Mammals* (LAJAM). The journal was founded in 2000, but had conceptual origins since the formation of the Latin American Society of Specialists in Aquatic Mammals (SOLAMAC), between 1994-1996. Members of the Society wanted a journal to showcase research on aquatic mammals in Latin America. The opportunity to start the journal presented itself following a workshop on the coordination of efforts for the conservation of the franciscana (*Pontoporia blainvillei*) when Dr. Salvatore Siciliano suggested the first issue could be a proceedings of the workshop. Dr. Eduardo Secchi was selected as the guest editor and the special issue that would become LAJAM Vol. 1 Number 1 was published in 2002 (Secchi & Siciliano, 2002), under the editorial co-management of Drs Secchi and Siciliano.

Following the successful launch of the new journal, Dr. Siciliano was selected as the first Managing Editor and Dr. Secchi would take the role as the first Editor-in-Chief. Since then, the journal has produced one or two issues per year except for 2008 and 2012-2014. In the 20 years of existence, LAJAM has had four Editors-in-Chief (Dr. Secchi 2000-2007, Dr. Nelio Barros 2007-2008, Dr. Daniel Palacios 2008-2014, and Dr. Miriam Marmontel 2015-present), including two years when there were co-Editors-in-Chief (Drs Secchi and Barros 2007 and Drs Barros and Palacios 2008), and three Managing Editors (Dr. Salvatore Siciliano 2000-2010, Dr. Doris Oliva 2011-2020, and Dr. Daniel Gonzalez-Socoloske 2021-present). Five special issues have been published to date: the special volume (two issues) on the biology and conservation of neotropical dolphins of the genus *Sotalia* (Santos et al. 2010), the special issue dedicated to the biology, ecology and conservation of the Giant River otter *Pteronura brasiliensis* (Marmontel et al. 2015), and the special volume (two issues) on bottlenose dolphins, *Tursiops truncatus* (Fruet et al., 2016); in addition to the “unofficial” beaked whale issue (Laporta et al., 2005), and the issue dedicated to Dr. Robert Henry Clarke (Paliza et al., 2011).

To celebrate our 20-year milestone, a new special issue of the journal was conceived with the idea of publishing a series of review papers focusing on major topics related to the aquatic mammals of Latin America. A call for proposals was sent to aquatic mammal

scientists that work in the area and more than 30 proposals were received. Proposals were carefully reviewed and authors of 15 proposals were invited to submit reviews. The Editor-in-chief (Miriam Marmontel) along with four associate editors (Nataly Castelblanco-Martinez, Daniel Gonzalez-Socoloske, Carolina Loch, and Aldo S. Pacheco) were selected as guest editors for the special issue. In the end, 10 review articles were submitted and passed the peer-review process.

Marine and fresh waters of Latin America are home to 56 species of cetaceans, 14 pinnipeds, five mustelids and two sirenians (give or take a few, depending on the classification followed). Most of them suffer direct or indirect human-caused impacts, and require knowledge on their biology and ecology to advance conservation and management actions. The field of aquatic mammalogy has expanded in the region in the past 20-30 years. Research groups have been created and collaborative work has become the norm. The 10 review papers contained in this Special Issue of LAJAM reflect the current knowledge on the aquatic mammals in Latin America in a wide variety of fields. They include an analysis of the contribution of the journal over the past two decades (Huesca-Domínguez et al.); reviews on threats, trends, and knowledge gaps in the region (Borobia et al.; Escobar-Lazcano et al.); fossil record for the area (Vigliano and Valenzuela-Toro et al.); molecular (Loizaga et al.), bioacoustic (Chávez-Andrade et al.), and side-scan sonar (Gonzalez-Socoloske & Olivera-Gómez) studies in Latin America; biology of Amazonian manatees (Amaral et al.) and Amazon River dolphins (da Silva et al.); and a review of the literature on the Antillean manatee (Castelblanco-Martínez et al.).

The introductory paper of this issue sets the stage for the following contributions, and by means of graphs and tables it elegantly shows major achievements by the Latin American community working on marine and freshwater mammals, and how knowledge has expanded and matured. Huesca-Domínguez et al. present a bibliometric review of the *Latin American Journal of Aquatic Mammals* over the last two decades. Their analysis of 278 publications between 2002-2022 revealed that 688 authors from 26 countries contributed to the journal over the last twenty years. Studies focused on odontocetes, and

conducted in Brazil, Argentina, and Uruguay were more common. An increase in publications by female and early career authors shows encouraging trends for the journal.

Aquatic mammals are subject to a number of threats worldwide, many of them shared by most taxa. Threat factors affecting marine mammals of the Wider Caribbean Region were analyzed and ranked by Borobia et al. Threats and progress made to mitigate them were based on surveys with representatives of 17 contracting parties to UNEP's Specially Protected Areas and Wildlife Protocol, after over a decade of adoption of the Action Plan for the Conservation of Marine Mammals in the region. Regional priorities for threat mitigation highlighted the worldwide problem of interaction between marine mammals and fisheries, in addition to pollution and acoustic disturbance. The latter, along with vessel strikes, were identified as priority research targets. National action plans, regional collaboration, citizen science, and development of guidelines are some of the recommendations listed by the authors.

Trends and gaps in research for Mexico are also discussed in Escobar-Lascano et al., where thirty-six percent of the marine mammals of the world occur, including the endemic and highly endangered vaquita (*Phocoena sinus*). The authors developed a GAP analysis to assess the scientific information available for marine mammals in the country, and provide an extensive examination of a database consisting of 1,426 papers and abstracts from conference proceedings published between 1998 and 2021. This bibliometric analysis includes the inspection of scientific literature variation depending on taxa, geographic region, and topic, and reveals important knowledge gaps in the literature concerning marine mammals from Mexico. Most of the research in the region is conducted on coastal species such as the manatee, California sea lion, humpback whale, and the bottlenose dolphin.

Two papers review recent advancements in knowledge of iconic Amazonian species, the Amazon River dolphin and the Amazonian manatee. A much-needed review of the last couple of decades of research on the biology of the Amazon River dolphin, *Inia geoffrensis*, is presented by da Silva et al. They provide a summary of the current knowledge on the biology of *Inia* covering a wide variety of topics including distribution, life history, genetics, and population trends. They also discuss emerging knowledge on the other putative species within the genus. In the same general period, Amaral et al. identified 111 papers that dealt with *T. inunguis*, versus the figure of 50 listed in Rosas (1994) for a period of approximately a century. In both cases (dolphin and manatee), around one third of the contributions occurred in the last four years.

A more dramatic trend is presented in a broad review on another species of manatee, the Antillean manatee (*Trichechus manatus manatus*), by Castelblanco-Martínez et al.: 74 studies published prior to 2002, versus 382 in 2002-2022 (up to the time of submission, mid-2022), most of them in the past five years. Particular note is made on the contributions of female researchers from Latin America ('global South'). The authors identify important gaps of knowledge, and propose the necessary research that could aid the mitigation of the anthropogenic impacts on this subspecies.

Baleen whales and dolphins were common subjects of bioacoustic studies, according to Chávez-Andrade et al. The authors document the history and development of marine mammal bioacoustics research from 1971 to 2020. During those 50 years, the publication rate grew mostly in the 2000s, due to availability of more economically accessible devices to record underwater sounds. The species and regions with most research efforts are depicted, but also those species and areas where further research efforts are needed. Bioacoustics is a powerful tool when visual observations are impaired by behavior or environmental conditions. With equivalent increased application is another sound-related tool. Side-scan sonar use in Latin America only started in the early 2000s, with a subsequent average number of two publications a year. Gonzalez-Socoloske and Olivera-Gómez provide a review of the use of side-scan sonars to detect and study manatees in Latin America, mainly in Mexico. Because of the challenges of detecting manatees in the wild, side-scan sonars have been adopted in studies in over fifteen countries, mostly in shallow and narrow waterways with murky freshwater. Standardization of the technique is still challenging, and the review provides directions to achieve that.

Paleontological research of aquatic mammals in Latin America has expanded markedly over the last 30 years. Viglino and Valenzuela-Toro et al. reviewed the paleobiological findings in the region, highlighting records of cetaceans, pinnipeds, sirenians, desmostylians, and mustelids of global significance. The authors also suggested less visibility of scientific research produced by Latin American paleontologists within the global community, and proposed small-scale actions to achieve a more equitable academic field.

Understanding the genetic structure of aquatic mammal populations is paramount to support conservation and management efforts, with special note to Neotropical freshwater and marine habitats. Loizaga et al. update a 1993-2010 work by Oliveira et al. (2012) reviewing what has been achieved in 2011-2022 with 44 species of cetaceans (mysticetes and odontocetes), carnivores (mustelids, otariids, and phocids), and manatees in South America. The number of scientific papers doubled in 2011-2022, with an increased number of studies for all taxa, except for pinnipeds. Expected gaps were identified among rare or oceanic species. Less expected was the need to increase study efforts with some coastal and relatively common species. Authors argue for improvement in the use of genomics to assess gene diversity, and studies on forensics applied to wildlife trade. Loizaga and colleagues also suggest species in specific areas that should be studied with genetic techniques.

All papers point collaborations across the region, and consequent achievement of success, and significant increase in number of publications. There is increasing protagonism of female researchers, and a new generation of local researchers. This trend is likely to increase, stimulated by more affordable gear, expanding regional collaboration, and capacity-building. More financial support is called for, and there is a need to continue communicating our scientific results to the general public, peers, and policy makers. In times of open Science and the world wide web, LAJAM has much to contribute to these goals.



Figure 1. Original art associated with each of the ten review articles by Alexandre Huber.

We are grateful to all authors that contributed to this special issue and all the reviewers whose thoughtful support ensured the quality of the science presented in all contributions. We are also grateful to artist Alexandre Huber for providing original artwork for the cover and each of the 10 review papers (Fig. 1). We also thank the Andrews University Office of Scholarly Research for generously provided funding for the original artwork in this special issue.

Between 2004 and 2017, we published LAJAM jointly with SOMEMMA (the Mexican Society for Marine Mammals). We have had two major change periods, 2009-2011, with a new Board of Associate Editors, becoming an online journal only, and adding an online ISSN to our journal and DOI to all our articles. In 2021-2022 with again a strengthened Editorial Board, a new layout and cover, the institution of the early view feature and adoption of full OJS-online workflow, adding new categories of contributions, moving the publishing dates to April and October, strengthening our ties with SOLAMAC, and in this issue introducing the ability to publish supplementary material (which five of the current 10 papers contain). Our dedicated editorial team is working to ensure that LAJAM is available at the fastest possible time for readers within the aquatic mammalogist community.

Throughout LAJAM's life, we maintained our original logo of a franciscana dolphin, an emblematic species of conservation concern that embodies the conservation issues of many Latin American aquatic mammals. The journal has also been generously supported by Yaqu Pacha (Germany) since its beginning, and received additional contributions over the years from the US Marine Mammal Commission, Cetacean Society International, Wildlife Conservation Society (US); IUCN (Switzerland); Instituto Aqualie, Petrobras, and Fundação Oswaldo Cruz (Brazil), all of whom we sincerely thank.

Two years ago we regretted our situation under the Covid 19 pandemic. It is now part of our lives and we have incorporated the necessary changes to keep the journal up. We met in person in Praia do Forte, Brazil last September in the last SOLAMAC meeting, and are getting back to the field and to our normal lives. We have come a long way, and achieved much in the past 20 years. We look forward to the next 20 years and invite you to celebrate with us. We also invite you to publish and showcase your work with the Society's LAJAM journal. As Dr Odell once told Dr. Marmontel, on the occasion of her MSc completion, "long live and publish".

The Guest Editors

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