Latin American Journal of Aquatic Mammals

ISSN: 2236-1057 | Vol. 18 No. 1, January 2023

Two decades of the *Latin American Journal of Aquatic Mammals* (LAJAM): A bibliometric review for the period 2002 – 2022

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Abstract

We conducted a retrospective bibliometric analysis of the *Latin American Journal of Aquatic Mammals* (LAJAM), the scholarly publication of the Latin American Society of Specialists in Aquatic Mammals (SOLAMAC) for the last 20 years. The goal was to describe the state of the research, trends, changes, and priorities to provide a deeper context for future studies on these taxa in Latin America. We analyzed 278 publications between 2002 – 2022 (there were no published issues between 2012 – 2014), by 688 authors and from 26 countries. Odontocetes were the best represented taxa, led by *Tursiops truncatus*, *Pontoporia blainvillei*, and *Sotalia* spp., followed by an otter (*Pteronura brasiliensis*) and a Mysticete (*Megaptera novaeangliae*). Co-word analysis within publications reflected research focus on particular species (*e.g.*, *P. brasiliensis* and *T. truncatus*), regions (*e.g.*, southern Brazil and Peru) and topics (*e.g.*, distribution, population, sexual dimorphism). Most of the studies were conducted in Brazil, Argentina, and Uruguay, whereas research from the Caribbean was limited in the sample. We found an increasing trend in the number of publications by females as first authors over the years, who also increased in the number of citations across the study. Several types of organizations were involved in the publications, dominated by academic institutions, mainly in Brazil. Many authors shifted institutions over the first half of the study, and publications from non-governmental organizations maintained an important role throughout the study. We identified eight clusters within the authorship network, where six belonged to Brazilian authors; however, cluster connectivity was mediated mainly by authors from countries like Brazil and Uruguay, changing across the years. Finally, the patterns and trends found here seem to adequately reflect the development of the field, in terms of efforts and collaborative networks in South America and Mexico during the last twenty years of this journal.

Keywords:
scientific productivity, scientific mapping, Latin America, trending topic, gender bias, publication trends

ARTICLE INFO

Manuscript type: Review

Article History
Received: 19 October 2022
Received in revised form: 7 December 2022
Accepted: 8 December 2022
Available online: 27 January 2023

Handling Editor: Carolina Loch

Citation:
Huesca-Domínguez, I., Morteo, E., Hernández-Candelario, I., Delfín-Alfonso, C. A., Abarca-Arenas, L. G., Marmontel, M., & Palacios, D. M. (2023). Two decades of the *Latin American Journal of Aquatic Mammals* (LAJAM): A bibliometric review for the period 2002 – 2023. *Latin American Journal of Aquatic Mammals, 18*(1): 5-20. https://doi.org/10.5597/lajam00294

Introduction

The *Latin American Journal of Aquatic Mammals* (LAJAM) was born out of the need for a journal to publish academic works

by members of the Latin American Society of Specialists in Aquatic Mammals (SOLAMAC). The main goal of the journal is "to promote and disseminate scientific knowledge about aquatic mammals and their environment in Latin America" (Palacios et al., 2011). The journal was founded in the year 2000 and its first volume was published in 2002, thus the journal is celebrating 20 years. Since its inception, it has been sponsored by Yaqu Pacha (a non-governmental organization based in Germany) and has received additional support from different organizations (*e.g.,* US Marine Mammal Commission, Cetacean Society International, and Wildlife Conservation Society).

Until 2010 there was a printed version of the journal, which switched to online publication in 2011. This transition led to a first bibliometric analysis to evaluate the trends and patterns of the publications during that period (Palacios et al., 2011). Subsequently, multiple logistical constraints prevented its publication between 2012 and 2014, during the transition of Editors-in-Chief. However, the journal has been working uninterruptedly since 2015. By September 2022, LAJAM has published 29 issues distributed in 17 volumes.

All these aspects motivated us to conduct a new retrospective bibliometric analysis of the scientific output of LAJAM during its whole history (2002 – 2022), to provide a deeper understanding of the state of research, its trends, changes, and the main topics addressed, and shed light to researchers for the development of future scientific studies (Bordons & Zulueta, 1999; García-Villar & García-Santos, 2021).

Journals from different scientific fields commonly publish bibliometric reviews during special dates to learn about the most relevant and influential trends in their publications (*e.g.*, Milfont & Page, 2013; Merigó et al., 2017; Viglia et al., 2022). Similarly, this type of study has been applied to a variety of topics to learn about the scientific production on particular subjects (*e.g.*, Young & Wolf, 2006; Wieland et al., 2013; Garrigos-Simon et al., 2019; Hallinger & Chatpinyakoop, 2019; Munim et al., 2020). Thus, bibliometric analyses provide a quantitative evaluation of scientific research or production that allows the discovery of emerging trends, collaboration patterns, and the exploration of the intellectual structure of a specific field (Chen et al., 2020; Donthu et al., 2021).

The main questions driving this study followed some of the key points raised by a previous bibliometric analysis of LAJAM for the period 2002 – 2010 (Palacios et al., 2011), and emphasized the changes observed throughout the 2002 – 2022 period. These questions were: What was the annual trend in scientific production? What changes and/or trends occurred in research topics over this period? Which researchers and countries were the main contributors? How did the scientific community interact throughout this period? Which publications had the greatest impact between periods? Was there a gender bias in the proportion of articles written between these periods? Which species were the most studied? Which countries had the highest productivity? What is the global impact and relevance of the journal's production today? The answers to these questions will allow us to understand where we have been in the past and where we are at present, providing insightful information for innovative proposals that guide the development, improvement, and future growth of the journal.

Methods

Data collection

Metadata from all publications in LAJAM between 2002 and 2022 were compiled. Publications were classified as Articles, Comments, Editorials, Introductions, Notes, Opinions, Protocols, Reviews, Short Communications, and Workshop Reports; In Memoriam documents were not considered for this study. To have a more complete understanding of the scientific production, for each publication we also recorded the country where the study was carried out; the number of citations in Google Scholar (as a measure of the impact and relevance of the journal's production); the gender, country, and institution of origin of the first author; and the species under study. Following Palacios et al. (2011), author affiliations were classified as: university, government agency, non-governmental organization (NGO), and other (*i.e.*, private associations, consulting firms, or independent scientists).

Publication and citation trends

Descriptive metrics (frequencies, averages, and proportions) were used to compare between the data by Palacios et al. (2011) in 2002 – 2011 (first period) and the more recent publications between 2015 – 2022 (second period). In addition, publication and citation trends were compared by journal issue, document type, and the gender of first authors. The contributions of authors, institutions, and countries were evaluated by their number of publications. These results were presented through tables and graphs. Intermediate plots were generated by adapting the original scripts by Palacios et al. (2011) for the ggplot2 package (Wickham, 2016) in the R software version 4.1.2 (R Core Team, 2021).

Graphical analysis of co-words and keyword citation bursts

The compiled metadata was imported into VOSviewer version 1.6.18, a free software program used for bibliometric analyses (van Eck & Waltman, 2010), which allows for graphical representations of various types of networks. These graphs display clusters, densities, proximities, and map network labels, and are useful for interpreting scientific map analyses (van Eck & Waltman, 2014). These representations helped us to assess the co-occurrence of words from titles, abstracts, and keywords with the purpose of identifying research topics. For visual clarity, the minimum co-occurrence threshold was set to five (Chen, 2017).

This database was processed in the CiteSpace 6.1.R2 software (Chen, 2006) to identify progressive patterns in the development of topics within the scientific community. This helped to identify the evolution of fast-growing topics in this scientific community, by detecting bursts of cited keywords (Chen, 2017).

Graphical analysis of authorships

Analysis of co-authorship for articles in academic journals provides a broad overview of collaborative patterns within the academic community (Newman, 2004). Thus, we also used a network analysis in VOSviewer (van Eck & Waltman, 2010) to assess collaboration among researchers from different countries. For visual clarity, the minimum threshold for collaborative

interactions was set to 10 co-authorships (van Eck & Waltman, 2014). It is noteworthy that in this study we recorded all the authors from the publications under analysis, and not just the first author as in the original assessment by Palacios et al. (2011); this was because in many cases publications are derived from student theses, who are often the first authors, thus diminishing the contribution of their advisors, who likely would have a longer history of publishing in LAJAM. We then measured the contribution of each author (node) according to their number of publications and collaborations (links) through their centrality, using the same metrics as in Palacios et al. (2011); these were: a) closeness, b) degree, c) betweenness, and c) eigenvector centrality (see Borgatti (2005) for definitions). Centrality measures were also calculated for author interaction between periods, and these were calculated using the igraph R package (Csardi & Nepusz, 2006).

Geographic and taxonomic trends in LAJAM

The number of publications by country was plotted on a map generated in QGIS version 3.26 (QGIS Development Team, 2022). We also used Python version 3.10 (van Rossum & Drake Jr, 1995) to produce a word cloud using Wordcloud package (Muller, 2018) to represent the frequency of the most studied species in LAJAM, where the size of the words are proportional to the frequency of the studies of each species.

Results

Comparative trends for publications and citations

Over the period 2002 – 2022, LAJAM published 17 volumes, comprising 29 issues and 278 publications. The types of publications with the highest frequency throughout the whole history of LAJAM correspond to Articles (n = 108), followed by Notes (n = 59), and Short Communications (n = 56). The types of publications with lower frequency corresponded to Introductions (n = 1), Opinions (n = 1), Protocols (n = 1), and Commentaries (n = 2). We noted that Short Communications ceased being published on a regular basis after Volume 6 (Number 1), whereas Commentaries were published only in Volume 5 (Numbers 1 and 2). Opinions and Protocols are more recent (both types started in Volume 16, Number 1). Also, starting with Volume 7, each number has had an Editorial.

During the first period (2002 – 2011), nine volumes were published in 17 issues with 184 publications, whereas during the second period (2015 – 2022), eight volumes were published in 12 issues with 94 publications, considering that 2022 has not yet ended (Fig. 1). The first number of Volume 1 had the largest number of publications in the history of the journal (n = 24), followed by Volume 8 (Numbers 1 and 2) (n = 21) and Volume 11 (Numbers 1 and 2) (n = 20). During the first period, a larger number of Articles and Short Communications was observed, and the first issue of Volume 1 had the highest number of Articles (n = 13). On the other hand, the second period showed higher heterogeneity in the type of documents, being dominated by Workshop Reports, especially in Volume 11 (Numbers 1 and 2) (n = 17); also, in this period many publications corresponded to Notes (n = 34) (Fig. 1).

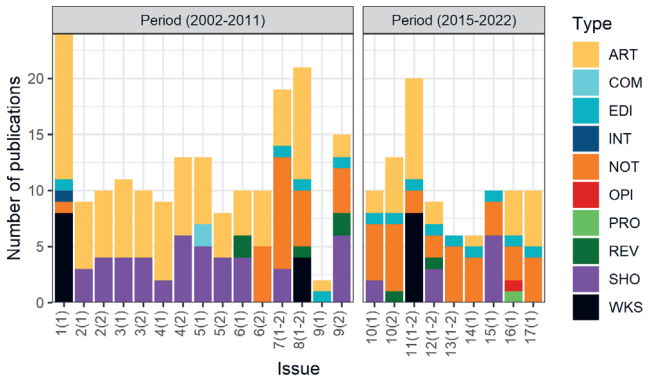

Figure 1. Distribution and trends of publications in LAJAM by type between the analyzed periods (n = 278 publications). ART = Article, COM = Commentary, EDI = Editorial, INT = Introduction, NOT = Note, OPI = Opinion, PRO = Protocol, REV = Review, SHO = Short Communication, WKS = Workshop Report.

Over its history (2002 – 2022) LAJAM has published four Special Issues (Table 1), the first corresponding to the franciscana dolphin (*Pontoporia blainvillei*), which marked the beginning of the journal, followed by one about Neotropical dolphins of the genus *Sotalia*, another for the giant river otter (*Pteronura brasiliensis)*, and the last one about the bottlenose dolphin (*Tursiops* spp.). Additionally, although not formally Special Issues, Volume 4, Number 2 (2005) was also referred to as "The Unofficial Beaked Whale Issue", and Volume 9, Number 1 (2011) was entirely dedicated to the memory of Dr. Robert Henry Clarke (1919 – 2011).

Table 1. Special issues in LAJAM during 2002 – 2022

No.	Year	Special issue theme	Volume (Issue)
1	2002	Biology and Conservation of Franciscana	1(1)
2	2010	Biology and Conservation of Neotropical Dolphins of the Genus *Sotalia*	8(1-2)
3	2015	Biology, Ecology and Conservation of the Giant River Otter *Pteronura brasiliensis*	10(2)
4	2016	*Tursiops* in the Southwest Atlantic Ocean	11(1-2)

In general, there was a balance in the number of issues where either male or female as first author had a higher number of published papers during the entire period (2002 – 2022) (11 and 11 of 24 issues), and for the remaining two issues, the frequency of male/female as first author was similar (*i.e.*, the second number of Volume 3 and Numbers 1-2 of Volume 13). However, we found a shift in the number of publications by gender of the first author between the two studied periods (Fig. 2). In the 2002 – 2011 period, nine out of 13 issues had a greater number of publications by male first authors (*i.e.*, the first issue of Volume 1 had the highest difference; male = 18 and female = 6); conversely, for the 2015 – 2022 period, eight out of the 11 issues had a higher number of publications where the first author was a female (Fig. 2).

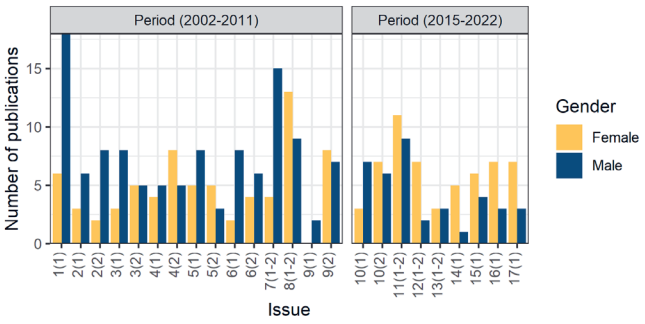

Figure 2. Distribution and trends of publications in LAJAM by gender of the first author (n = 278 publications).

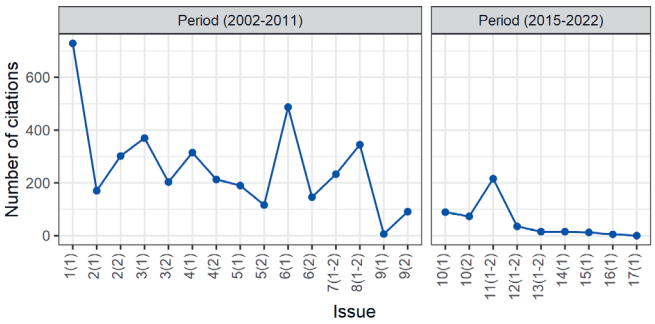

Figure 3. Number of citations per issue for LAJAM publications according to Google Scholar (through September 2022).

Over the entire study period (2002 – 2022) the scientific production of LAJAM generated 4,376 citations (3,916 citations for the first period and 460 citations for the second period). Expectedly, the largest number of citations was generated in the first period, with an average of 261.1 citations per issue. Particularly, the first issue of Volume 1 had the largest number of citations (n = 729). The number of citations per issue has been variable and was expectedly lower in the second period (Fig. 3). For the second period, the average number of citations per issue was 57.5, with Volume 11 (Numbers 1 and 2; the Special Issue on bottlenose dolphins) reporting the highest number of citations (n = 216).

Table 2 shows the 21 most cited publications in the first period of LAJAM (2002 – 2011); these account for 3,916 citations (41.5%). The top two corresponded to literature reviews dealing with human impacts on large and small cetaceans, respectively, both published in the first number of Volume 6 (2007). From this list, 62% corresponded to male first authors.

Table 2. Top 21 (most cited) publications in LAJAM during 2002 – 2011.

No.	Year	Title	First author	Gender	Issue	Document type	No. Cites	%
1	2007	Vessel collisions with small cetaceans worldwide and with large whales in the Southern Hemisphere, an initial assessment	Van Waerebeek, K.	M	6 (1)	REV	233	5.7
2	2007	A preliminary overview of skin and skeletal diseases and traumata in small cetaceans from South American waters	van Bressem, M.	F	6 (1)	REV	131	3.2
3	2004	Home ranges and movement patterns of the marine tucuxi dolphin, *Sotalia fluviatilis*, in Baía Norte, southern Brazil	Flores, P.	M	3 (1)	ART	118	2.9
4	2002	Feeding ecology of the franciscana (*Pontoporia blainvillei*) in marine and estuarine waters of Argentina	Rodríguez, D.	M	1 (1)	ART	109	2.7
5	2005	Recent rapid increases in right whale (*Eubalaena australis*) population off southern Brazil	Groch, K.	F	4 (1)	ART	95	2.3
6	2003	Interactions between gillnet fisheries and small cetaceans in northern Rio de Janeiro, Brazil: 2001 – 2002	Di Beneditto, A.	F	2 (2)	ART	88	2.2
7	2002	Report of the working group on fishery interactions	Ott, P.	M	1 (1)	WKS	86	2.1
8	2006	Distribution and habitat use of small cetaceans off Abrolhos Bank, eastern Brazil	Rossi Santos, M.	M	5 (1)	ART	74	1.8
9	2002	Accumulation of heavy metals in the franciscana (*Pontoporia blainvillei*) from Buenos Aires province, Argentina	Gerpe, M.	F	1 (1)	ART	69	1.7
10	2002	Incidental mortality of franciscana (*Pontoporia blainvillei*) in the artisanal fishery of Praia Grande, São Paulo state, Brazil	Bertozzi, C.	F	1 (1)	ART	64	1.6
11	2004	Strandings of Antillean manatees, *Trichechus manatus manatus*, in northeastern Brazil	Parente, C.	M	3 (1)	ART	56	1.4
12	2007	Ecological aspects of marine tucuxi dolphins (*Sotalia guianensis*) based on group size and composition in the Cananéia estuary, southeastern Brazil	Santos, M.	M	6 (1)	ART	56	1.4
13	2002	Incidental catches of franciscana (*Pontoporia blainvillei*) on the southern coast of São Paulo state and the coast of Paraná state, Brazil	Rosas, F.	M	1 (1)	ART	55	1.4
14	2004	Incidental catches of franciscana in coastal gillnet fisheries in the Franciscana Management Area III: period 1999 – 2000	Secchi, E.	M	3 (1)	ART	53	1.3
15	2004	Overlap between pinniped summer diet and artisanal fishery catches in Uruguay	Szteren, D.	F	3 (2)	ART	52	1.3
16	2005	Social interactions between tucuxis and bottlenose dolphins in Gandoca-Manzanillo, Costa Rica	Acevedo Gutiérrez, A.	M	4 (1)	ART	49	1.2
17	2003	Reproduction of female franciscana (*Pontoporia blainvillei*) in Rio Grande do Sul, southern Brazil	Danilewicz, D.	M	2(2)	ART	48	1.2
18	2006	The origin of ambergris	Clarke, R.	M	5(1)	ART	48	1.2
19	2010	Report of the Working Group on Distribution, Habitat Characteristics and Preferences, and Group Size	da Silva, V.	F	8 (1-2)	WKS	48	1.2

No.	Year	Title	First author	Gender	Issue	Document type	No. Cites	%
20	2004	An update on anomalously white cetaceans, including the first account for the pantropical spotted dolphin (*Stenella attenuata graffmani*)	Fertl, D.	F	3 (2)	SHO	47	1.2
21	2007	Incidental mortality of franciscana dolphin (*Pontoporia blainvillei*) in Argentina	Cappozzo, H.	M	6 (2)	ART	47	1.2

Table 3. Top 21 (most cited) publications in LAJAM during 2015 – 2022.

No.	Year	Title	First author	Gender	Issue	Document type	No. Cites	%
1	2015	Epidemiological characteristics of skin disorders in cetaceans from South American waters	van Bressem, M.	F	10 (1)	ART	27	5.9
2	2016	Long-term site fidelity and residency patterns of bottlenose dolphins (*Tursiops truncatus*) in the Tramandaí Estuary, southern Brazil	Giacom, A. B.	F	11 (1-2)	ART	27	5.9
3	2016	Report of the Working Group on the Distribution of *Tursiops truncatus* in the Southwest Atlantic Ocean	Lodi, L.	F	11 (1-2)	WKS	22	4.8
4	2015	Cetaceans observed in Suriname and adjacent waters	De Boer, M. N.	F	10 (1)	ART	21	4.6
5	2015	Advances in the study of giant otter (*Pteronura brasiliensis*): ecology, behavior, and conservation: a review	Duplaix, N.	F	10 (2)	REV	21	4.6
6	2016	Report of the Working Group on Habitat Use of *Tursiops truncatus* in the Southwest Atlantic Ocean	Laporta, P.	F	11 (1-2)	WKS	19	4.1
7	2015	Strand-feeding by coastal bottlenose dolphins (*Tursiops truncatus*) in the Gulf of Guayaquil, Ecuador	Jiménez, P. J.	M	10 (1)	NOT	18	3.9
8	2016	Report of the Working Group on Taxonomy and Stock Identity of bottlenose dolphins in the Southwest Atlantic Ocean	Ott, P.	M	11 (1-2)	WKS	17	3.7
9	2016	Biopsy darting of common bottlenose dolphins (*Tursiops truncatus*) in southern Brazil: evaluating effectiveness, short-term responses and wound healing	Fruet, P.	M	11 (1-2)	ART	16	3.5
10	2015	Distribution and conservation status of giant otter (*Pteronura brasiliensis*) in the Pantanal wetland, Brazil	Tomas, W. M.	M	10 (2)	ART	14	3.0
11	2016	First estimate of common bottlenose dolphin (*Tursiops truncatus*) (Cetacea, Delphinidae) abundance off Uruguayan Atlantic coast	Laporta, P.	F	11 (1-2)	ART	14	3.0
12	2016	Mark-recapture vs. line-transect abundance estimates of a coastal dolphin population: a case study of *Tursiops truncatus* from Laguna, southern Brazil	Daura Jorge, F.	M	11 (1-2)	ART	13	2.8
13	2016	Report of the Working Group on Population Parameters and Demography of *Tursiops truncatus* in the Southwest Atlantic Ocean	Fruet, P.	M	11 (1-2)	WKS	11	2.4
14	2016	Report of the Working Group on Interactions between Humans and *Tursiops truncatus* in the Southwest Atlantic Ocean	Fruet, P.	M	11 (1-2)	WKS	10	2.2
15	2016	Update on the current occurrence of *Tursiops truncatus* (Montagu, 1821) in Rio de Janeiro State	Lodi, L.	F	11 (1-2)	NOT	10	2.2
16	2015	First successful capture and satellite tracking of a West Indian manatee (*Trichechus manatus*) in Panama: feasibility of capture and telemetry techniques	González-Socoloske, D.	M	10 (1)	NOT	9	2.0
17	2016	Report of the Working Group on the Biology and Ecology of *Tursiops truncatus* in the Southwest Atlantic Ocean	Laporta, P.	F	11 (1-2)	WKS	9	2.0
18	2016	Bottlenose dolphins (*Tursiops truncatus*, Montagu 1821) in central-northern coast of Rio de Janeiro State, Brazil: stranding patterns and insights into feeding habits	Moura, J.	M	11 (1-2)	ART	9	2.0
19	2017	A review on the distribution, abundance, residency, survival and population structure of coastal bottlenose dolphins in Argentina	Vermeulen, E.	F	12 (1-2)	REV	9	2.0
20	2015	Detection of infection with *Leptospira* spp. in manatees (*Trichechus inunguis*) of the Peruvian Amazon	Delgado, P. M.	M	10 (1)	NOT	8	1.7
21	2016	Reports of strandings and sightings of bottlenose dolphins (*Tursiops truncatus*) in northeastern Brazil and Brazilian oceanic islands	Meirelle, A.	F	11 (1-2)	ART	8	1.7

Table 3 shows the 21 most cited publications in the second period of LAJAM (2015 – 2022), representing 67.8% of the 460 citations. In this case, the top cited paper deals with skin disorders in cetaceans, published in 2015, whereas the second is about site fidelity and residency in bottlenose dolphins, as a result of a workshop in 2016. From the list, 52.4% correspond to females as first authors, including the top six cited papers (Table 3).

Since the beginning, publications in LAJAM have included a total of 688 authors, working in 26 countries and representing various types of institutions. Table 4 shows the first authors with at least two publications in LAJAM during 2002 – 2011, corresponding to 34 publications. Most papers were generated within academic institutions, but it is noteworthy that some authors switched institutions and even countries over the course of this period, reflecting the dynamic nature of their professional development. The most productive country was Brazil by far, followed by Argentina. From the list, the top five authors were male and only 29.4% were female.

Conversely, for the 2015 – 2022 period, the most productive authors were female and only seven first authors had at least two published papers. Again, Brazil was the most productive country, followed by Uruguay. In this case, authors did not switch institutions, suggesting a more stable period in their careers.

The number of institutions with at least two publications in LAJAM during 2002 – 2011 are shown in Table 6. The first

Table 4. Top publishing authors (two or more publications) in LAJAM during 2002 – 2011.

No.	Author	Gender	Institution	Acronyms	Institution type	Country	Total	%
1	Santos, M.	M	Universidade de São Paulo	USP	University	Brazil	8	4.3
			Universidade Estadual Paulista "Júlio de Mesquita Filho"	UNESP	University	Brazil		
2	Secchi, E.	M	Universidade Federal do Rio Grande	FURG	University	Brazil	7	3.8
			University of Otago	UOTAGO	University	New Zealand		
3	Flores, P.	M	Centro Nacional de Pesquisa & Conservação de Mamíferos Aquáticos	ICMBio	Government	Brazil	5	2.7
			Instituto de Pesquisa & Conservação de Golfinhos	IPCG	NGO	Brazil		
			Pontifícia Universidade Católica do Rio Grande do Sul	PUCRS	University	Brazil		
4	Palacios, D.	M	Oregon State University	OSU	University	USA	5	2.7
			University of Hawaii	UH	University	USA		
5	Félix, F.	M	Fundación Ecuatoriana para el Estudio de Mamíferos Marinos	FEMM	NGO	Ecuador	4	2.2
			Museo de Ballenas	MB	NGO	Ecuador		
6	Molina Schiller, D.	F	Universidade Federal do Rio Grande do Sul	UFRGS	University	Brazil	4	2.2
7	Rosas, F.	M	Instituto Nacional de Pesquisas de Amazônia	INPA	Government	Brazil	4	2.2
8	Clarke, R.	M	Other	Other	Other	Peru	3	1.6
9	Pardo, M.	M	Universidad de Bogotá "Jorge Tadeo Lozano"	UJTL	University	Colombia	3	1.6
			Centro de Investigación Científica y de Educación Superior de Ensenada	CICESE	University	Mexico		
			Instituto Politécnico Nacional Secretaría de Medio Ambiente y Recursos Naturales	CICIMAR	University	Mexico		
10	Rodríguez, D.	M	Universidad Nacional de Mar del Plata	UNMP	University	Argentina	3	1.6
11	Alava, J.	M	Simon Fraser University	SFU	University	Canada	2	1.1
			Fundación Natura	NATURA	NGO	Ecuador		
12	Bordino, P.	M	Fundación AquaMarina	CECIM	NGO	Argentina	2	1.1
13	Caballero, S.	F	University of Auckland	UAUCK	University	New Zealand	2	1.1
14	Cappozzo, H.	M	Museo Argentino de Ciencias Naturales "Bernardino Rivadavia"	MACN	Government	Argentina	2	1.1
15	Crespo, E.	M	Centro Nacional Patagónico	CENPAT	Government	Argentina	2	1.1
16	Daneri, G.	M	Museo Argentino de Ciencias Naturales "Bernardino Rivadavia"	MACN	Government	Argentina	2	1.1
17	Danilewicz, D.	M	Grupo de Estudos de Mamíferos Aquáticos do Rio Grande do Sul	GEMARS	NGO	Brazil	2	1.1
18	Drehmer, C.	M	Universidade Federal de Pelotas	UFPEL	University	Brazil	2	1.1
19	García, C.	F	Other	Other	Other	Colombia	2	1.1
20	García Godos, I.	M	Centro Peruano de Estudios Cetológicos	CEPEC	NGO	Peru	2	1.1
			Instituto del Mar del Perú	IMARPE	Government	Peru		
21	Gómez Salazar, C.	F	Dalhousie University	DAL	University	Canada	2	1.1
			Fundación Omacha	OMACHA	NGO	Colombia		
22	Gurjão, L.	M	Universidade Federal do Ceará	UFC	University	Brazil	2	1.1
23	Kinas, P.	M	Fundação Universidade Federal do Rio Grande	FURG	University	Brazil	2	1.1
24	Lima, D.	F	Grupo de Pesquisa em Mamíferos Aquáticos Amazônicos	GPMAA	NGO	Brazil	2	1.1
			Pontifícia Universidade Católica de Minas Gerais	PUCMG	University	Brazil		
25	Meirelles, A.	F	Associação de Pesquisa e Preservação de Ecossistemas Aquáticos	AQUASIS	NGO	Brazil	2	1.1
26	Moreno, I.	M	Grupo de Estudos de Mamíferos Aquáticos do Rio Grande do Sul	GEMARS	NGO	Brazil	2	1.1
27	Oliveira, L.	F	Grupo de Estudos de Mamíferos Aquáticos do Rio Grande do Sul	GEMARS	NGO	Brazil	2	1.1
			Universidade de São Paulo	USP	University	Brazil		
28	Pacheco, A.	M	Universidad de Antofagasta	UA	University	Chile	2	1.1
29	Ramos, R.	F	Everest Tecnologia em Serviços, Ltda.	ETS	Other	Brazil	2	1.1
			Universidade Estadual do Norte Fluminense	UENF	University	Brazil		
30	Rossi Santos, M.	M	Instituto Baleia Jubarte	IBJ	NGO	Brazil	2	1.1
31	Szteren, D.	F	Universidad de la República	UDELAR	University	Uruguay	2	1.1
32	Van Bressem, M.	F	Centro Peruano de Estudios Cetológicos	CEPEC	NGO	Peru	2	1.1
33	Van Waerebeek, K.	M	Centro Peruano de Estudios Cetológicos	CEPEC	NGO	Peru	2	1.1
34	Yates, O.	M	Albatross Task Force	ATF	NGO	Chile	2	1.1
			Other	Other	Other	Chile		

Note: the category of "Other" in author's institution of origin was used to denote an unidentified institution

Table 5. Top publishing authors (two or more publications) in LAJAM during 2015 – 2022.

No.	Author	Gender	Institution	Acronym	Institution type	Country	Total	%
1	Marmontel, M.	F	Instituto de Desenvolvimento Sustentável Mamirauá	IDSM	NGO	Brazil	10	10.6
2	Fruet, P.	M	Universidade Federal do Rio Grande	FURG	University	Brazil	4	4.3
3	Laporta, P.	F	Yaqu Pacha Uruguay – Organización para la Conservación de Mamíferos Acuáticos en América del Sur	OCMAAS	NGO	Uruguay	3	3.2
4	Bachara, W.	M	Other	Other	Other	Poland	2	2.1
5	Bordin, A.	F	Groupe d'Etude et de Protection des Oiseaux en Guyane	GEPOG	NGO	French Guiana	2	2.1
6	Félix, F.	M	Pontificia Universidad Católica del Ecuador	PUCE	University	Ecuador	2	2.1
7	Lodi, L.	F	Instituto Mar Adentro	IMA	NGO	Brazil	2	2.1

Note: the category of "Other" in author's institution of origin was used to denote an unidentified institution

author affiliations yielded a total of 35 institutions, mostly from Brazil, followed by Uruguay; most of them were academic.

In 2015 – 2022, only twelve institutions had first authors with at least two publications (Table 7), and again Brazil had the lead, followed by Uruguay. However, this time, most publications came from NGOs, followed by academia.

Publications by country and institution type for the entire study period are shown in Table 8. In this case, the list is not

Table 6. Institutions with most publications (two or more) in LAJAM during 2002 – 2011.

No.	Institution	Acronym	Institution type	Country	Total	%
1	Universidade Federal do Rio Grande	FURG	University	Brazil	11	6.0
2	Universidad de la República	UDELAR	University	Uruguay	9	4.9
3	Centro Peruano de Estudios Cetológicos	CEPEC	NGO	Peru	6	3.2
4	Grupo de Estudos de Mamíferos Aquáticos do Rio Grande do Sul	GEMARS	NGO	Brazil	6	3.2
5	Instituto Nacional de Pesquisas de Amazônia	INPA	Government	Brazil	6	3.2
6	Universidade de São Paulo	USP	University	Brazil	6	3.2
7	Universidade Federal do Rio Grande do Sul	UFRGS	University	Brazil	6	3.2
8	Associação de Pesquisa e Preservação de Ecossistemas Aquáticos	AQUASIS	NGO	Brazil	5	2.7
9	Fundação Oswaldo Cruz	FIOCRUZ	Government	Brazil	5	2.7
10	Museo Argentino de Ciencias Naturales "Bernardino Rivadavia"	MACN	Government	Argentina	5	2.7
11	Universidade Estadual Paulista "Júlio de Mesquita Filho"	UNESP	University	Brazil	5	2.7
12	Centro Nacional Patagónico	CENPAT	Government	Argentina	4	2.2
13	Oregon State University	OSU	University	USA	4	2.2
14	Universidad Nacional de Mar del Plata	UNMP	University	Argentina	4	2.2
15	Fundación Ecuatoriana para el Estudio de Mamíferos Marinos	FEMM	NGO	Ecuador	3	1.6
16	Instituto Baleia Jubarte	IBJ	NGO	Brazil	3	1.6
17	Instituto Politécnico Nacional Secretaría de Medio Ambiente y Recursos Naturales	CICIMAR	University	Mexico	3	1.6
18	Other	Other	Other	Peru	3	1.6
19	Universidade Estadual do Rio de Janeiro	UERJ	University	Brazil	3	1.6
20	Centro Nacional de Pesquisa & Conservação de Mamíferos Aquáticos	ICMBio	Government	Brazil	2	1.1
21	Everest Tecnologia em Serviços, Ltda.	ETS	Other	Brazil	2	1.1
22	Fundación AquaMarina	CECIM	NGO	Argentina	2	1.1
23	Geo-Marine, Inc.	GEO-MARINE	Other	USA	2	1.1
24	Other	Other	Other	Brazil	2	1.1
25	Other	Other	Other	Colombia	2	1.1
26	Pontifícia Universidade Católica do Rio Grande do Sul	PUCRS	University	Brazil	2	1.1
27	Universidad Autónoma de Baja California Sur	UABCS	University	Mexico	2	1.1
28	Universidad de Antofagasta	UA	University	Chile	2	1.1
29	Universidad de Bogotá "Jorge Tadeo Lozano"	UJTL	University	Colombia	2	1.1
30	Universidade Estadual do Norte Fluminense	UENF	University	Brazil	2	1.1
31	Universidade Federal de Pelotas	UFPEL	University	Brazil	2	1.1
32	Universidade Federal de Santa Catarina	UFSC	University	Brazil	2	1.1
33	Universidade Federal do Ceará	UFC	University	Brazil	2	1.1

No.	Institution	Acronym	Institution type	Country	Total	%
34	University of Auckland	UAUCK	University	New Zealand	2	1.1
35	Wildlife Conservation Society/Ecuador	WCS	NGO	Ecuador	2	1.1

Note: the category of "Other" in author's institution of origin was used to denote an unidentified institution

Table 7. Institutions with most publications in LAJAM during 2015 – 2022.

No.	Institution	Acronym	Institution type	Country	Total	%
1	Instituto de Desenvolvimento Sustentável Mamirauá	IDSM	NGO	Brazil	12	12.8
2	Universidade Federal do Rio Grande	FURG	University	Brazil	5	5.3
3	Yaqu Pacha Uruguay – Organización para la Conservación de Mamíferos Acuáticos en América del Sur	OCMAAS	NGO	Uruguay	3	3.2
4	Centro de Rescate Amazónico	CREA	NGO	Peru	2	2.1
5	Duke University	DU	University	USA	2	2.1
6	Ecología y Conservación de Ballenas, AC.	ECOBAC	NGO	Mexico	2	2.1
7	Groupe d'Etude et de Protection des Oiseaux en Guyane	GEPOG	NGO	French Guiana	2	2.1
8	Instituto Mar Adentro	IMA	NGO	Brazil	2	2.1
9	Instituto Venezolano de Investigaciones Científicas	IVIC	NGO	Venezuela	2	2.1
10	Other	Other	Other	Poland	2	2.1
11	Pontificia Universidad Católica del Ecuador	PUCE	University	Ecuador	2	2.1
12	Universidade Federal de Santa Catarina	UFSC	University	Brazil	2	2.1

Note: the category of "Other" in author's institution of origin was used to denote an unidentified institution

Table 8. Most productive countries in LAJAM during 2002 – 2022.

No.	Country	Institution type				Total	%
		University	Government	NGO	Other		
1	Brazil	64	15	45	4	128	46.0
2	Argentina	6	11	6	0	23	8.3
3	USA	14	1	5	2	22	7.9
4	Mexico	10	4	3	0	17	6.1
5	Peru	0	1	11	3	15	5.4
6	Uruguay	9	1	3	0	13	4.7
7	Chile	6	0	4	1	11	4.0
8	Ecuador	2	0	8	0	10	3.6
9	Colombia	3	0	3	2	8	2.9
10	Venezuela	0	0	4	0	4	1.4
11	Bolivia	1	0	2	0	3	1.1
12	Canada	3	0	0	0	3	1.1
13	French Guiana	0	0	3	0	3	1.1
14	New Zealand	3	0	0	0	3	1.1
15	Poland	0	0	0	2	2	0.7
16	Portugal	2	0	0	0	2	0.7
17	Puerto Rico	2	0	0	0	2	0.7
18	Costa Rica	0	0	1	0	1	0.4
19	Germany	0	0	1	0	1	0.4
20	Guadeloupe	0	0	1	0	1	0.4
21	Guatemala	0	0	1	0	1	0.4
22	Italy	0	0	0	1	1	0.4
23	South Africa	1	0	0	0	1	0.4
24	Spain	1	0	0	0	1	0.4
25	The Netherlands	0	0	1	0	1	0.4
26	West Indies	0	0	1	0	1	0.4
	Overall total	127	33	103	15	278	100

divided by period because the data followed the same pattern. Out of the 26 identified countries, 15 were in Latin America. Again, Brazil had at least 5.6 times the number of publications (46.0% based on the affiliation of the first author) of any country and was followed by Argentina and USA with 8.3% and 7.9%, respectively. Most of the authors belonged to academia (*i.e.*, n = 127 universities) and non-governmental organizations (n = 103). Interestingly, Brazil (n = 64) and USA (n = 14) were mostly represented by universities than any other type of institution. Conversely, publications in Argentina were led by government institutions, whereas publications from Peru came mostly from NGOs (n = 11). Mexico had the fourth position, where most first authors were affiliated to universities (n = 10). Each of these five countries produced at least 5% of the publications across the history of LAJAM, and together had over 70% of the total.

Analyses of co-words and keyword citation bursts

The co-occurrence network of words for all the publications in LAJAM is shown in Fig. 4. A total of six clusters were identified in the network, where the first cluster (in dark blue) is dominated by the keywords "species", "stranding", "animal", "giant otter", and "period". Cluster 2 (in light blue) reflects studies on morphology and sexual dimorphism through the words "female", "male", "size", "analysis", and "age". Cluster 3 (in purple) refers to studies on *Sotalia guianensis* and other cetaceans in southern Brazil by the words "brazil", "sotalia guianensis", "southern brazil", "bay", and "calf". Cluster 4 (in red) corresponds to studies on

Pontoporia blainvillei from the words "coast", "franciscana", "year", "data", and "region". Cluster 5 (in yellow) deals with occurrence and distribution of dolphins (words: "dolphin", "areas", "distribution", "water" and "sighting"), and Cluster 6 (in green) refers to marine mammal population studies (words: "whale", "study", "population", "group", and "tursiops truncatus").

The 20 keywords with the strongest citation bursts during the period 2002 – 2022 are presented in Figure 5. The earliest keyword burst was for "pontoporia blainvillei" (2002 – 2003) and the latest corresponded to "megaptera novaeangliae" (2020 – 2022). The five keywords with the strongest citation bursts were "pontoporia blainvillei" (2002 – 2003), "southern brazil" (2003 – 2005), "western south atlantic" (2002 – 2003), "arctocephalus australis" (2003 – 2005), and "cetacean" (2006 – 2007).

Keywords with longer citation bursts correspond to "delphinidae" and "habitat use", which appeared later in the first publication period (2010 – 2011) and continued early in the second period (2015 – 2016). The order of the keywords reflects the trend in the topics of interest over time. Chronologically, LAJAM publications began with studies on species with restricted distribution ranges in South America, such as "pontoporia blainvillei" (2002 – 2003) (Volume 1, Number 1) and "arctocephalus australis" (2003 – 2005). Subsequently, studies on "cetaceans" (2006 – 2007) such as the "common bottlenose dolphin" (2004 – 2007) emerged, having a strong citation burst during 2016 – 2018, which included a dedicated Special Issue (Volume 11, Numbers 1 and 2). More recently, studies in LAJAM have expanded their coverage to whales such as "megaptera novaeangliae" (2020 – 2022).

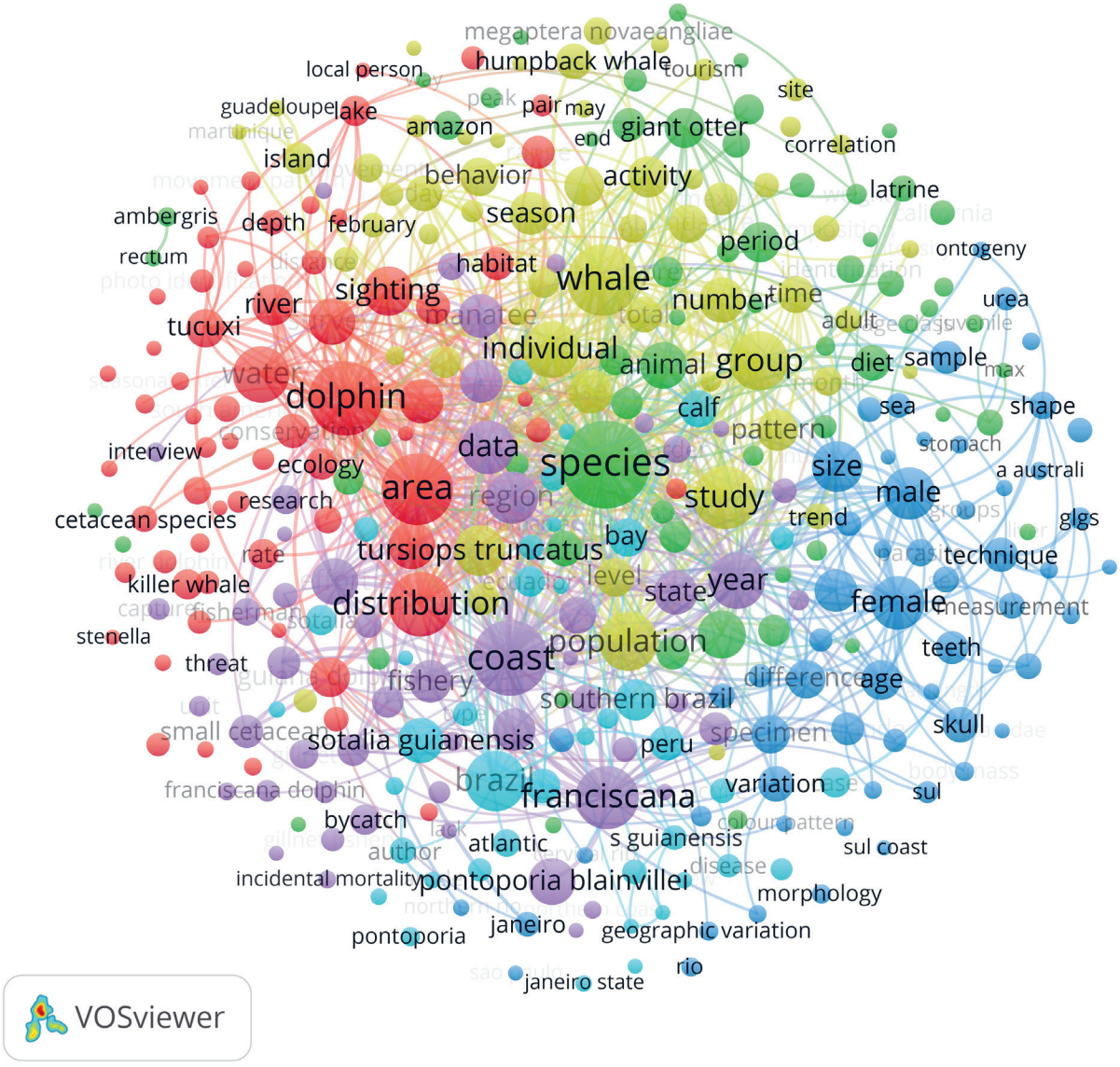

Figure 4. Co-occurrence word network based on titles, abstracts, and keywords of 278 publications appearing in LAJAM during 2002 – 2022 (minimum co-occurrence threshold was set to 5, resulting in visualization of 336 keywords). Clusters are identified by color.

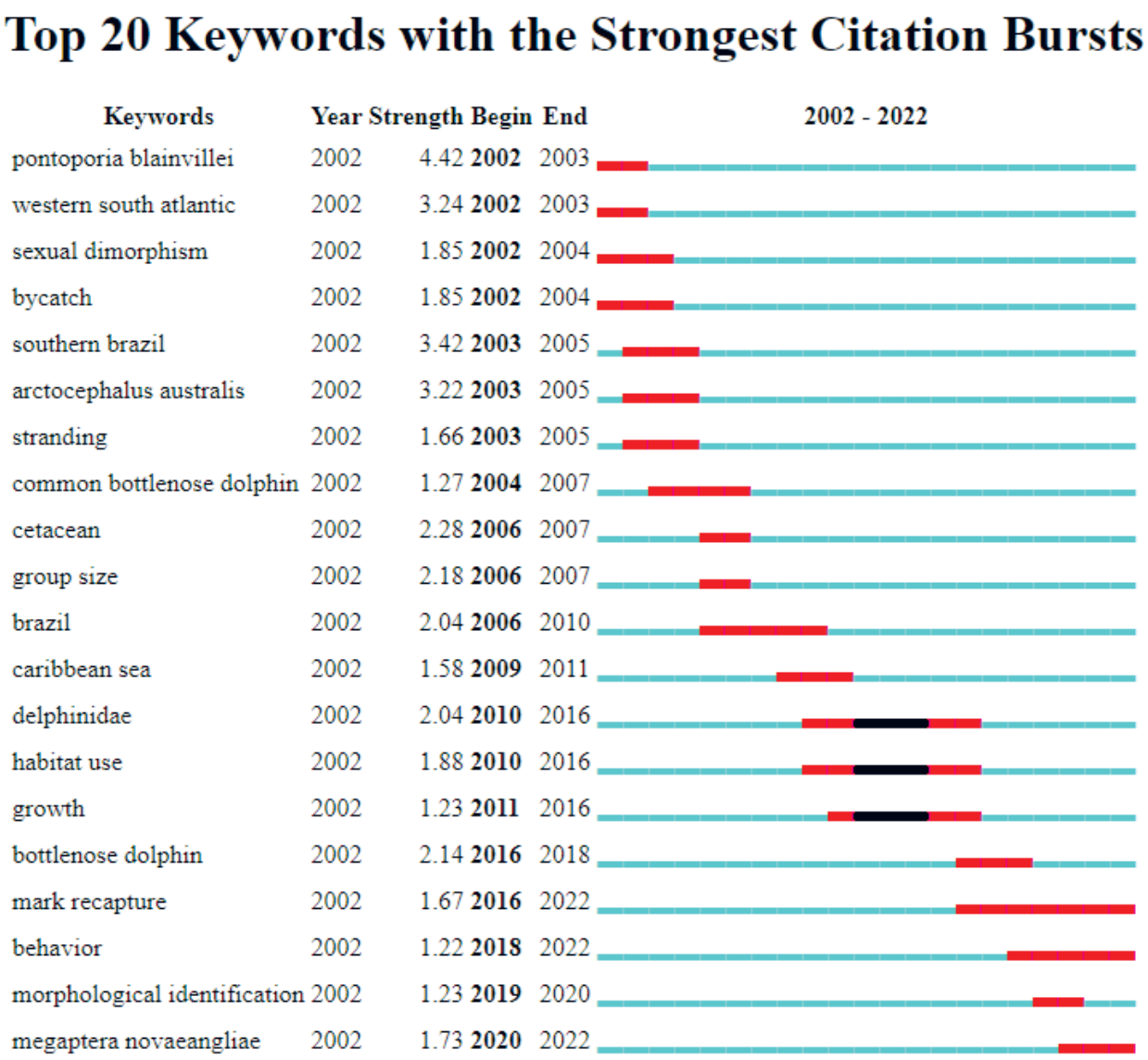

Figure 5. Top 20 keywords classified by citation bursts from the 278 publications appearing in LAJAM during 2002 – 2022. The black lines show the 2012-2014 period where there were no publications.

Analyses of co-authorship

From the 278 publications appearing in LAJAM over the 20-year period, 30 (10.8%) were authored by a single person, 51 (18.4%) by two authors, 66 (23.7%) by three authors, and the remaining 47.1% were written by four or more authors. From the 688 unique authors in LAJAM, the threshold of the number of collaborative interactions (n = 10) left 166 to build the network (Fig. 6), with a total of 2,948 co-authorships (*i.e.*, links). The network showed eight distinct clusters where the highest number of collaborations within each group corresponded to specific authors in six clusters, exclusively from Brazilian organizations: Cluster 1: Fruet, P. (in purple); Cluster 2: Ott, P. (in dark blue); Cluster 3: Moreno, I. (in green); Cluster 4: Santos, M. (in orange); Cluster 5: Siciliano, S. (in red); Cluster 6: Meirelles, A. (in light blue). Only in Cluster 7 (in yellow) the central author belonged to Argentina (Crespo, E.) and in Cluster 8 (in brown) to French Guiana (Bordin, A.).

The top five authors with the highest number of interactions (centrality degree) were: Siciliano, S., Santos, M., Bolaños-Jimenez, J., Moreno, I., and Ott, P. Also, except for Moreno, I. and Bolaños-Jimenez, J. (from Cluster 2), the other three were from different clusters. These authors also showed the highest values in other centrality measures (Fig. 7), but Bolaños-Jiménez, J. had the highest centrality of betweenness.

Comparatively, the centrality values for authors changed between both periods (2002 – 2011 and 2015 – 2022) (Fig. 8). In 2002 – 2011, the two authors with the highest values for most of the centralities belonged to Brazilian institutions. Conversely, the second period showed authors from different countries, one from Brazil and the other from Uruguay.

Geographic and taxonomic trends in LAJAM

Most Latin American coastal countries have published in LAJAM (Fig. 9), lead by Brazil (36.9%), followed by Argentina (10.2%), Uruguay (8.3%), and Ecuador (7.32%). Conversely, the Caribbean and Central America had the fewest studies. Mexico, Venezuela, Colombia, and Chile published an intermediate number of studies (between 13 and 20 publications).

LAJAM has published studies on a diverse set of aquatic mammal species, but the vast majority are cetaceans, especially dolphins (Fig. 10). The most studied species was *Tursiops truncatus* (10.5%), followed by *Pontoporia blainvillei* (8.5%), *Sotalia guianensis* (7.4%), and *S. fluviatilis* (5.4%). Among the riverine species, *Pteronura brasiliensis* (4.0%), *Inia geoffrensis* (0.9%), and *Lontra longicaudis* (0.7%) were also reported.

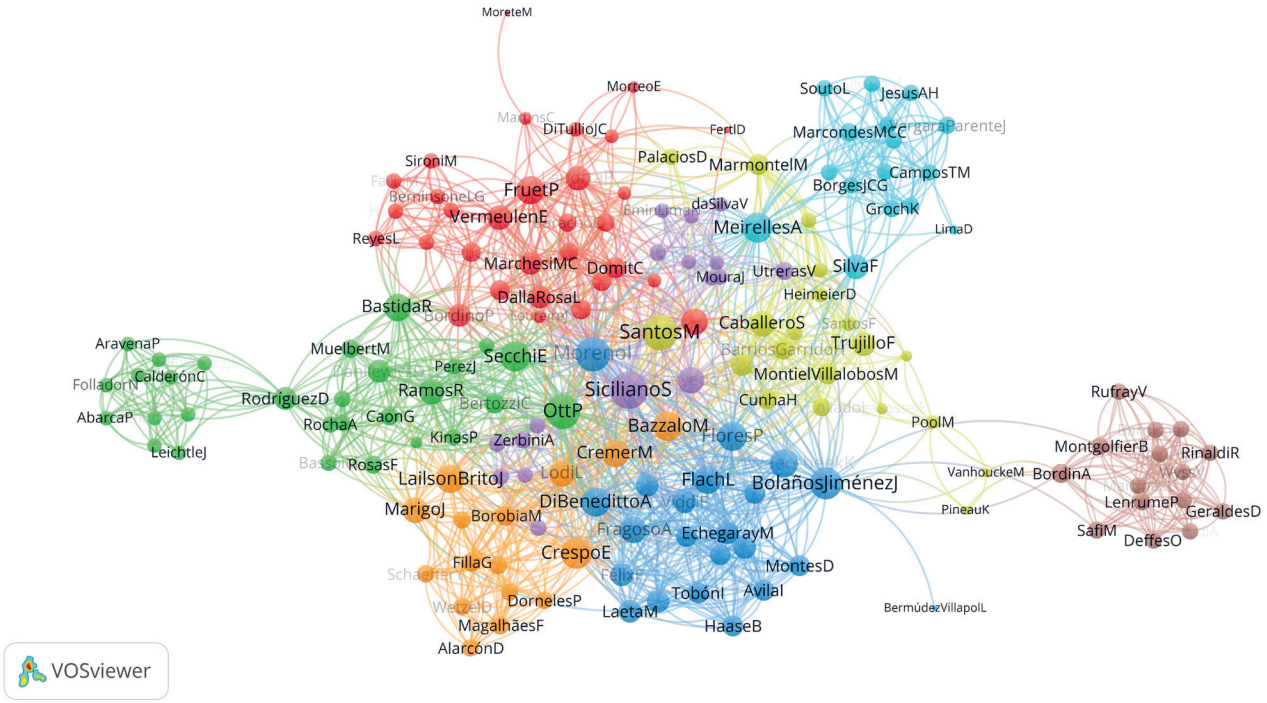

Figure 6. Co-authorship network of the scientific production in LAJAM, based on 278 publications and 166 authors appearing in LAJAM during the period 2002 – 2022 (minimum co-occurrence threshold was set to 10 collaboration interactions, resulting in visualization of 166 authors).

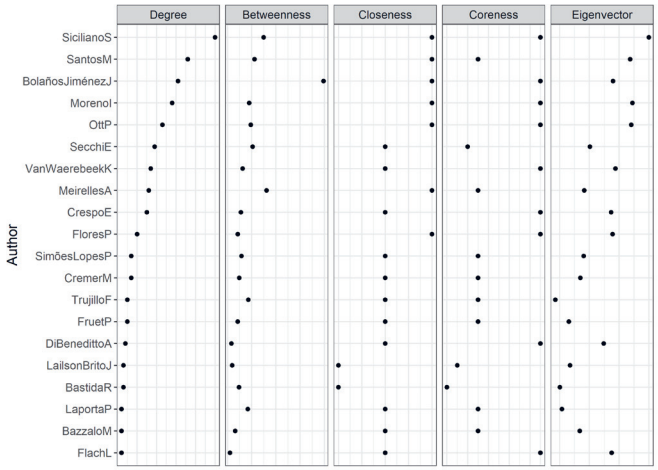

Figure 7. Top 20 authors appearing in LAJAM publications based on their centrality values in descending order within the network from 688 unique authors from 2002 – 2022. The x-axis scale has been omitted for clarity but their ranges are: Degree (42, 90), Betweenness (1036.18, 39668.81), Closeness ($9e^{-06}$, $9.1e^{-06}$), Coreness (14, 23), and Eigenvector (0.37, 1)

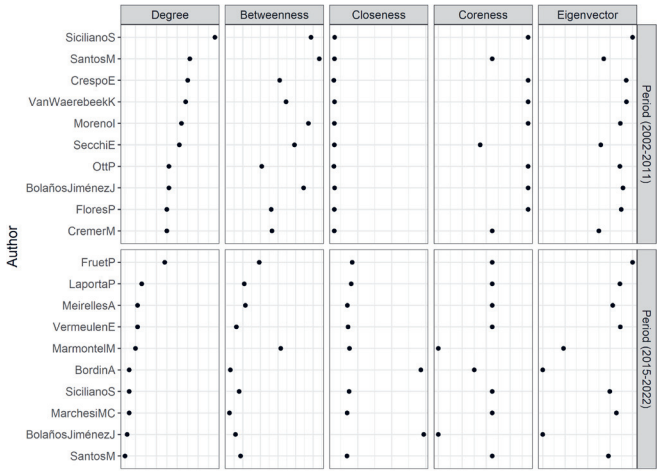

Figure 8. Top 10 authors appearing in LAJAM publications based on their centrality values in descending order within the network from 688 unique authors. Upper boxes show metrics from 2002 – 2010, whereas lower boxes show 2015 – 2022 metrics. The x-axis scale has been omitted for clarity but the ranges are: Degree (25, 68), Betweenness (231, 5357.15), Closeness (0.001, 0.015], Coreness (8, 23) and Eigenvector (0, 1).

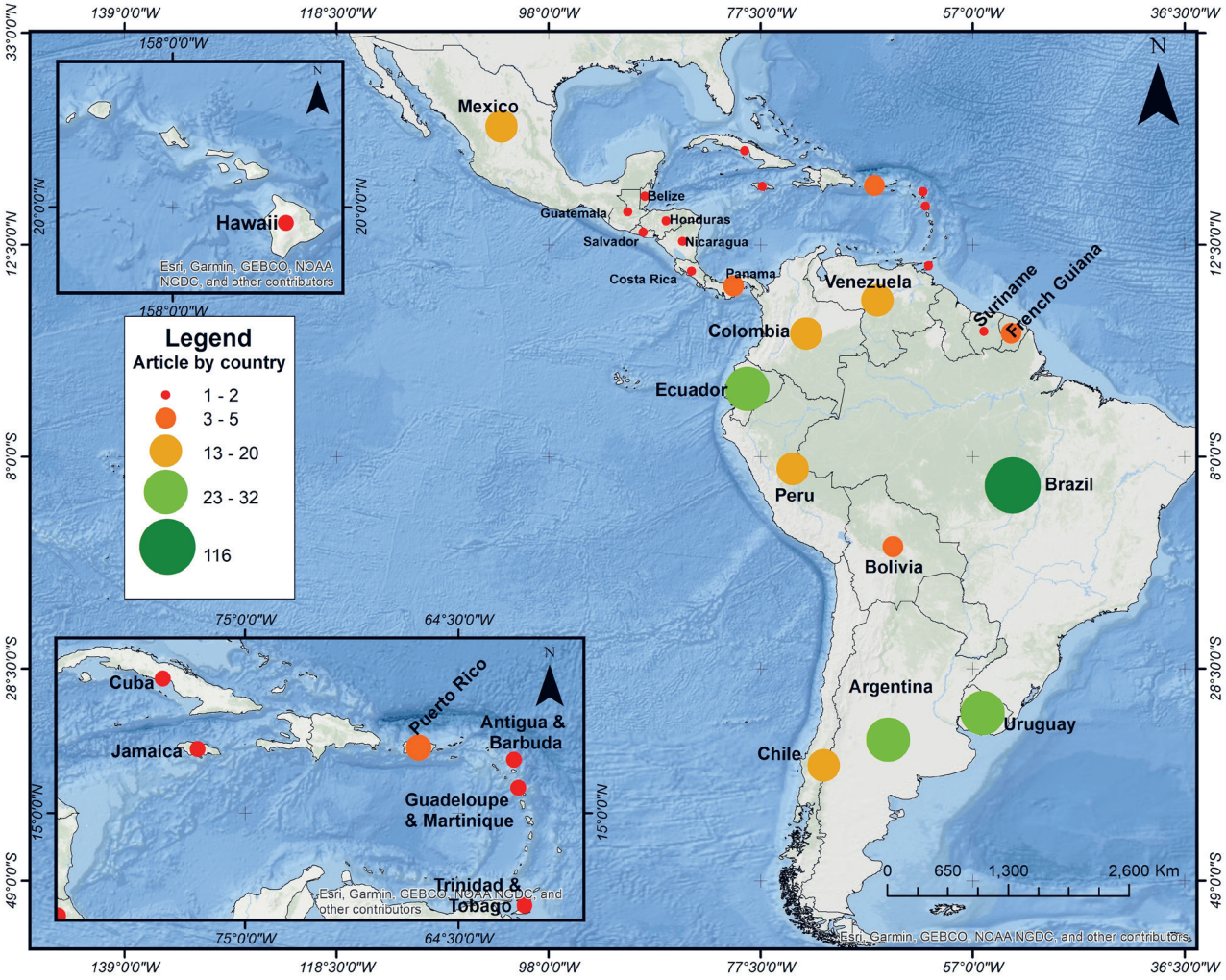

Figure 9. Map of the scientific publications in LAJAM by country during the period 2002 – 2022.

Figure 10. Word cloud showing the proportion of studied species in LAJAM publications during 2002 – 2022 (n = 278 publications).

Discussion

This update of the bibliometric analysis of LAJAM published by Palacios et al. (2011) focused on comparisons between the two periods (2002 – 2011 and 2015 – 2022).

Our analysis made evident the importance of Reviews published in LAJAM in the first period (*e.g.*, van Bressem et al., 2007; Van Waerebeek et al., 2007), having the highest number of citations. These reviews provide a comprehensive view and relevant information on selected topics and their trends, to set directions for future research (Webster & Watson, 2002). However, a few Articles also had great relevance for discussing in detail specific aspects on species with restricted distribution (*e.g.*, Iñíguez et al., 2003; Flores & Bazzalo, 2004; Belanger et al., 2022).

Workshop Reports and Articles stood out in the number of citations of some manuscripts during the second period (*e.g.,* van Bressem et al., 2015; Di Giacomo & Ott, 2017; Lodi et al., 2017). As expected, the number of citations for LAJAM publications was higher in the first period because the articles have had a longer time since publication compared to the most recent ones.

Our analyses indicate that a relevant part of the publications in LAJAM focus mostly on cetaceans and that the initial studies in LAJAM were carried out mainly in coastal waters of southern Brazil. The most frequently studied taxa in LAJAM were odontocetes (*e.g.*, *Tursiops truncatus*, *Pontoporia blainvillei*, *Sotalia guianensis,* and *S. fluviatilis*), followed by balaenopterids (*e.g.*, *Megaptera novaeangliae*) which were also the most studied in a broader bibliometric review for South America (Szteren & Lecari, 2022) and Mexico (Escobar-Lazcano et al., 2023) over the last 30 and 20 years, respectively. However, there were differences in the geographic coverage of the studied areas, according to the natural distribution of the species (Palacios et al., 2011; Szteren & Lecari, 2022; Escobar-Lazcano et al., 2023). For instance, owing to the diversity of species, studies in South America generally focused on species with a wide distribution (de Oliveira et al., 2012; Szteren & Lacari, 2022); conversely, since the beginning of LAJAM, the study of species with restricted distribution has been emphasized (*e.g.*, Rodriguez et al., 2002; Flores & Bazzalo, 2004; Utreras et al., 2005). This aspect is important considering that from at least 71 known species of aquatic mammals surveyed in South America, 20 have restricted distribution (Crespo, 2009).

It is also noteworthy that the key topics in various journals generally cover specific aspects of the studied species (*i.e.*, population ecology, conservation, behavior, feeding, phylogenetics, animal health, human-animal interaction, tourism, environmental education, among others) (Simões-Lopes, 2018; Szteren & Lacari, 2022; Escobar-Lazcano et al., 2023); however, although LAJAM also considers diverse aspects of the studied species, so far most publications seem to address mainly broad aspects of habitat distribution and use (*e.g.*, Rossi-Santos et al., 2006; Di Giacomo & Ott, 2017; Lodi et al., 2017). Thus, expanding the taxonomic and thematic diversity of publications in LAJAM over the upcoming years could help reach new horizons for this journal.

Publications during the first period (2002 – 2011) had a higher rate of male first authors, which were also the most cited articles. But this changed in the second period (2015 – 2022), where the highest productivity leaned toward females, which also had impact in the number of citations. This trend highlights the slow but increasing role of females in aquatic mammal research in Latin America over the recent years (Hooker et al., 2017; Giakoumi et al., 2021), which has been broadly recognized as a challenge in STEM (science, technology, engineering, and mathematics) fields worldwide (Winchester & Browning, 2015; Charlesworth & Banaji, 2019; Coe et al., 2019).

Productivity at LAJAM was dominated by Brazil, followed loosely by Argentina, USA, Mexico and Peru. These countries remain the most productive since the review carried out by Palacios (2012), with the exception of Peru; in turn, the USA now holds the second position and Mexico is listed fourth. On the other hand, Brazil remains the most productive country both in authors and institutions within the publications. This predominance has also been observed in previous bibliometric analyses carried out on the study of aquatic mammals in Latin America (Palacios et al., 2011; Simões-Lopes, 2018; Szteren & Lercari, 2022). However, representation from much of Latin America is increasing, showing that LAJAM is slowly expanding its influence in the region over time. It is worth mentioning that the presence and distribution of cetaceans in some parts of Central America and the Caribbean is still poorly known (Palacios et al., 2011); as in-depth studies in these regions are being published, LAJAM could have a more active role in promoting effective dissemination of these studies to enhance management and conservation measures (Lucke et al., 2014; De Weerdt et al., 2021).

The scientific community of publishing authors in LAJAM seems divided even within the same country, where only a few individuals have had consistent collaborations across the history of the journal. These have switched over the years, such that only few authors had consistent metrics across the study. This trend points to the dynamic nature of the publications produced by both students and academics within the aquatic mammal fields in Latin America and seems to respond to the adaptation of the authors to the different requirements (academic, administrative, and political) they face through their careers. Although our analysis only describes the evolution of the aquatic mammal field within LAJAM over the last 20 years, it is noteworthy that the patterns and trends found here are consistent with the development of the field when compared to the results of efforts and collaborative networks in South America in the broader literature, as described by Szteren and Lercari (2022) over the last 30 years.

We also noted that even when LAJAM has had a broad impact in marine mammal research across its history, there is still room to attract well-published researchers from within the Americas, but more importantly, the journal could promote a more consistent record for its authors. For instance, the co-authorship network showed several researchers with great centrality (*i.e.*, many collaborative links); however, these are commonly not first authors, which suggests that most of their publications belong to students or members of their team. In this sense, LAJAM is playing an important role in supporting the publication of early career and emerging scientists.

It should also be noted that a considerable proportion of

researchers in LAJAM belong to non-governmental organizations and, to a lesser extent, to government institutions. This highlights the importance of non-academic entities as co-producers of knowledge in Latin America, facilitating connections between different actors committed to environmental research (Haigh, 2006; Berkes, 2009; Calado et al., 2012; Harangozó & Zilahy, 2015; White et al., 2022). However, the participation of non-governmental organizations is very limited in Latin America and studies show that funding provided by government organizations is insufficient for research requirements (Ciocca & Delgado, 2017). The limited availability of financial resources to carry out studies on marine and aquatic mammals also means that the number of articles is more limited, at least when compared to studies on terrestrial mammals (Jarić et al., 2015; Tiongson et al., 2021). Furthermore, this lack of economic resources for field studies is coupled with economic and political trends on a global scale, where in some cases there is a decrease in interest and financial resources for education and scientific research (Torres & Schugurensky, 2002; Shrivastava & Shrivastava, 2014). In Latin America, the economic resources that governments allocate to science is disproportionate among countries (Ciocca & Delgado, 2017; Szteren & Lercari, 2022). Actually, the frequency and duration of local political and economic instability periods have negative impacts on scientific development, leading to less investment in research compared to developed countries (Ciocca & Delgado, 2017).

Caveats and limitations

This study summarizes LAJAM's efforts to disseminate original and relevant scientific information on aquatic mammals and their environment in Latin America. Our analysis also recognized the advantages in the publication of Special Issues, with the purpose of addressing important topics or producing lacking information on poorly known species for this region, which seem to produce temporal biases. Thus, the trends showed here evidenced that research published in LAJAM has evolved from topics about a handful of species with limited distribution, to broader topics in many widely distributed taxa. This has provided the authors with the means to expand the knowledge on these taxa and the scope of their research over time. With this, the types of publications in LAJAM have also diversified over the years, thus comparisons between the studied periods may not be straightforward.

It is important to keep in mind that the gap in published issues during 2012 – 2014 influenced the number of publications in the second period, leading to a decrease in the number of published articles. On the other hand, LAJAM still lacks a standardized metric for assessing its impact factor which, despite its controversial use over the years (Gutierrez et al., 2015), is relevant for many academic processes in several countries. This issue may be addressed by assessing how close the Journal is to meeting the guidelines of governmental scientific entities and academia in these countries, such that priorities are set by the Editorial board, and steps may be taken where deemed appropriate. Nevertheless, as evidenced here, the quantity and quality of the studies by the scientific community is constantly improving; thus, the rising role of LAJAM as an important source of knowledge throughout its history is set to provide guidance for aquatic mammal research, conservation, and management for the current, new, and future scientist across the Americas and beyond.

Acknowledgments

We acknowledge the role of LAJAM's Editorial Board and the hundreds of authors for their dedication, diligence, and persistence in the development, revision, and correction of their original and relevant research in the field of aquatic mammals over the last 20 years.

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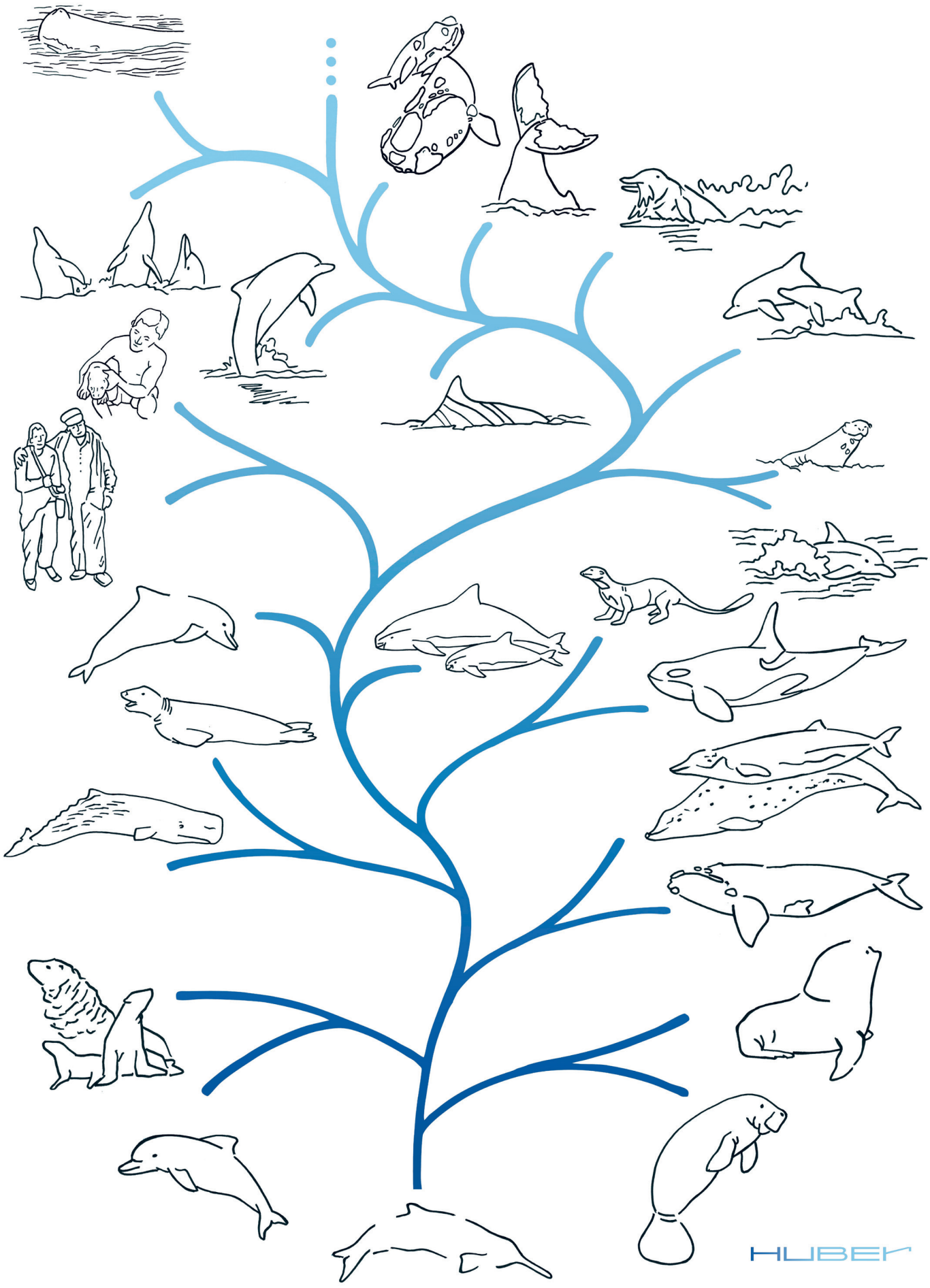
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