

Luis O. Lucifora: Biography and resumé

I grew up in Mar del Plata. This is a seaside town in Argentina, which harbors both the largest fishing fleet and the largest beach tourist industry in Argentina. Therefore, it was natural for a young Mar del Plata's boy interested in animals, especially if they were predators, to be attracted by sharks. Then, I graduated and got a PhD in biology at my city's university, Universidad Nacional de Mar del Plata, studying sharks. My PhD thesis (2003) was the first in-depth study on the ecology of sand tiger, *Carcharias taurus*, broadnose sevengill, *Notorynchus cepedianus*, copper, *Carcharhinus brachyurus*, and school, *Galeorhinus galeus*, sharks in Argentinian waters. This thesis set the basis for some of the protection measurements for sharks still in force in Argentina.

After completing my PhD, I left Argentina for Canada. There, I was a postdoc at Dalhousie University, in Halifax, Nova Scotia, under the supervision of two of the most globally renowned shark conservation scientists, the late Ransom 'Ram' Myers and Boris Worm. I started under Ram's supervision working on a project called "The Global Shark Assessment". Then, after Ram's unexpected passing, I worked at Boris's lab in a project called "Global Diversity Patterns of Sharks and Rays". After six years and completion of both projects, I felt it was time to return home, to apply the new skills I learned in Canada, to solve conservation problems for some of the least known and most imperiled elasmobranchs: freshwater stingrays.

In 2009, I returned to Argentina as a full-time staff researcher of CONICET (National Scientific Research Council), the main scientific research organization of the country. I was decided to focus my research on freshwater stingrays, therefore, I wanted to set a research lab on the banks of one of the big rivers inhabited by freshwater stingrays. First, I worked at the Instituto de Biología Subtropical, in Puerto Iguazú, on the triple border of Argentina, Brazil, and Paraguay, where the Iguazú and Paraná rivers meet. Since 2019, I work at the Instituto Nacional de Limnología, jointly administered by CONICET and the Universidad Nacional del Litoral, in the city of Santa Fe, on the Paraná River floodplain, one of the world's largest floodplains.

When I started studying freshwater stingrays, I soon realized that the giant freshwater stingray, *Potamotrygon brachyura*, was of special concern for conservation. First, I suspected that, as life history theory predicts, the biological productivity of giant freshwater stingrays would be rather low due to their large size. Second, the giant freshwater stingray is the preferred target of fishers not only for its big size (it is the largest freshwater stingray) but also for the quality of its meat, which according to fishers, it is better than that of any other freshwater stingray. The combination of those two factors is a recipe for increasing the extinction risk of a species. My suspicions proved right; in a sequence of several papers, my coworkers and I found that the giant freshwater stingray is a low-productive species, with a very small global geographic range (much smaller than that of any average marine ray), under a rather high fishing pressure, whose abundance is declining at a rate not lower than 4% annually.

Along my career, I published 63 papers in scientific journals, 9 book chapters, and one book (a guide on skates and rays of the Southwest Atlantic). All of these publications are on the biology and conservation of chondrichthyan fishes (sharks, rays, and chimaeras). I append below a resumé with a selected list of the publications most relevant to this project. A complete list of my publications can be found at:

ORCID: <https://orcid.org/0000-0002-1443-303X>

Google Scholar: <https://scholar.google.com/citations?user=FC9ukk0AAAAJ&hl=es>

ResearchGate: <https://www.researchgate.net/profile/Luis-Lucifora>

Scopus: <https://www.scopus.com/authid/detail.uri?authorId=56962762000>

Web of Science: <https://www.webofscience.com/wos/author/record/381595>

Luis Omar Lucifora

Resumé

1. Personal

Birth Date: 28 March 1973

Citizenship: Argentina.

Address: Instituto Nacional de Limnología, Consejo Nacional de Investigaciones Científicas y Técnicas, Universidad Nacional del Litoral, Santa Fe Capital, Santa Fe, S3001XAI, Argentina.

E-mail: luis.lucifora@gmail.com

2. Research interests

Ecology, evolution, diversity and conservation of sharks, skates, rays and chimaeras (class Chondrichthyes).

3. Degrees

2003. *PhD, Biological Sciences*, Universidad Nacional de Mar del Plata (UNMdP), Argentina.

1998. *MSc, Biological Sciences*, UNMdP, Argentina.

4. Research experience

Starting on September 1st, 2009. Researcher, Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET), Argentina.

2007-2009. Postdoctoral Fellow. Supervisor: Boris Worm. Global diversity patterns of sharks and rays. Dalhousie University, Halifax, Canada.

2004-2007. Postdoctoral Fellow. Supervisor: Ransom Myers. The Global Shark Assessment. Dalhousie University, Halifax, Canada.

2001-2003. PhD Student. Instituto Nacional de Investigación y Desarrollo Pesquero (INIDEP), Universidad Nacional de Mar del Plata, Mar del Plata, Argentina.

1998-2003. Participation in 9 research cruises (3 as technician, 6 as scientist) aboard the research vessels “Capitán Cánepa”, “Dr. E. Holmberg” and “Oca Balda”, all in Argentine waters.

5. Selected publications (total: 73)

Selected journal articles (from a total of 63)

Vazquez DM, **LO Lucifora** (2023) Estimating intrinsic susceptibility to extinction when little ecological information is available: the case of Neotropical freshwater stingrays (Chondrichthyes: Potamotrygoninae). *Fish and Fisheries* 24: 1084-1102. DOI: 10.1111/faf.12786

Lucifora LO, PA Scarabotti, SA Barbini (2022) Predicting and contextualizing sensitivity to overfishing in Neotropical freshwater stingrays (Chondrichthyes: Potamotrygonidae). *Reviews in Fish Biology and Fisheries* 32: 669-686. DOI: 10.1007/s11160-021-09696-2

Jorgensen SJ, F Micheli, TD White, KS Van Houtan, J Alfaro-Shigueto, S Andrzejaczek, NS Arnoldi, JK Baum, B Block, GL Britten, C Butner, S Caballero, D Cardenosa, TK Chapple, S Clarke, E Cortés, NK Dulvy, S Fowler, AJ Gallagher, E Gilman, BJ Godley, RT Graham, N Hammerschlag, AV Harry, M Heithaus, M Hutchinson, C Huvaneers, CG Lowe, **LO Lucifora**, T MacKeracher, JC Mangel, APB Martins, DJ McCauley, L McClenachan, C Mull, LJ Natanson, D Pauly, DA Pazmiño, JCA Pistevo, N Queiroz, G Roff, BD Shea, CA Simpfendorfer, DW Sims, C Ward-Paige, B Worm, F Ferretti (2022) Emergent research and priorities for shark and ray conservation.

Scarabotti PA, **LO Lucifora**, LA Espínola, AP Rabuffetti, J Liotta, JE Mantinian, JP Roux, N Silva, L Balboni, F Vargas, LD Demonte, S Sánchez (2021) Long-term trends of fishery landings and target fish populations in the lower La Plata Basin. *Neotropical Ichthyology* 19(3): e210013. DOI: 10.1590/1982-0224-2021-0013

Lucifora LO, SA Barbini, PA Scarabotti, DE Sabadin (2019) Socio-economic development, scientific research, and exploitation explain differences in conservation status of marine and freshwater chondrichthyans among countries. *Reviews in Fish Biology and Fisheries* 29: 951-964. DOI: 10.1007/s11160-019-09584-w

Lucifora LO, L Balboni, PA Scarabotti, FA Alonso, DE Sabadin, A Solari, F Vargas, SA Barbini, E Mabrugaña, JM Díaz de Astarloa (2017) Decline or stability of obligate freshwater elasmobranchs following high fishing pressure. *Biological Conservation* 210: 293-298. DOI: 10.1016/j.biocon.2017.04.028

Read press coverage on this paper by **Science Magazine**:

<http://www.sciencemag.org/news/2017/05/overfishing-hammering-south-america-s-rare-river-stingrays>

Lucifora LO, SA Barbini, S Llamazares Vegh, PA Scarabotti, F Vargas, A Solari, E Mabrugaña, JM Díaz de Astarloa (2016) Geographic distribution of the short-tailed river stingray (*Potamotrygon brachyura*): assessing habitat loss and fishing as threats to the world's largest obligate freshwater elasmobranch. *Marine and Freshwater Research* 67: 1463-1478. DOI: 10.1071/MF15003

Lucifora LO, MR de Carvalho, PM Kyne, WT White (2015) Freshwater sharks and rays. *Current Biology* 25: R971-R973. DOI: 10.1016/j.cub.2015.06.051

Hutchings JA, RA Myers, VB García, **LO Lucifora**, A Kuparinen (2012) Life history correlates of extinction risk and recovery potential. *Ecological Applications* 22: 1061-1067. DOI: 10.1890/11-1313.1

Lucifora LO, VB García, B Worm (2011) Global diversity hotspots and conservation priorities for sharks. *PLoS One* 6(5): e19356. DOI: 10.1371/journal.pone.0019356

García VB, **LO Lucifora**, RA Myers (2008) The importance of habitat and life history to extinction risk in sharks, skates, rays and chimaeras. *Proceedings of the Royal Society B* 275: 83-89. DOI: 10.1098/rspb.2007.1295

Selected book chapters (from a total of 9)

Kyne PM, **LO Lucifora** (2022) Freshwater and euryhaline elasmobranchs. In: *Biology of sharks and their relatives, third edition* (JC Carrier, CA Simpfendorfer, MR Heithaus, KE Yopak, eds.), pp 567-602. CRC Press, Boca Raton, USA.

Books (total 1)

Cousseau MB, DE Figueroa, JM Díaz de Astarloa, E Mabragaña, **LO Lucifora** (2007) *Rayas, Chuchos y otros Batoideos del Atlántico Sudoccidental (34°S-55°S)*. Instituto Nacional de Investigación y Desarrollo Pesquero, Mar del Plata, Argentina, 102 p.

8.Grants received as Principal Investigator (PI)

Since 2008, I received five grants as PI from the Lenfest Ocean Program (1), CONICET (2), Argentina's National Agency of Science and Technology (1), and Santa Fe's Agency of Science, Technology and Innovation (1).

9.Editorial responsibilities.

2006-2021: Editorial board member of four journals, including PLoS One.

Since 1999: More than 170 manuscript reviews for over 50 journals, including Biological Conservation; Aquatic Conservation: Marine and Freshwater Ecosystems; Scientific Reports; PLoS One; Biology Letters; Reviews in Fish Biology and Fisheries; Fisheries Research; Marine Biology; Marine Ecology Progress Series; Transactions of the American Fisheries Society; ICES Journal of Marine Science; Journal of Fish Biology; Marine and Freshwater Research; Environmental Biology of Fishes.

10.Student advising

Ph.D. Currently enrolled: Santiago Bianchi.

Ph.D. finished: David Sabadin; Natalia Ruocco; Santiago Barbini.

M.Sc. Graduated: Federico Cortés, Santiago Barbini, Jorge Colonello, Natalia Ruocco.

11. People supervision

Researchers: Gabriela Delpiani, Lorena Scenna; Santiago Barbini. (All finished).

Postdocs: Martín Vazquez, David Sabadin, Agustín Solari, Santiago Barbini. (All finished, except M. Vazquez).

12. Thesis board member

I served as board member of seven PhD theses for universities from Argentina (Universidad Nacional de Mar del Plata) and Australia (University of Queensland, Flinders University), and of four MSc or Bachelor theses for universities from Argentina (Universidad Nacional de Mar del Plata), Brazil (Universidade Federal do Rio Grande), and Colombia (Universidad Industrial de Santander).