

elasmo_analyses: a Comprehensive Living Database of Elasmobranch Research for Literature Reviews, Research Geography, and Conservation Prioritisation

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Simon Fraser University (SFU), Institut de Ciències del Mar (CSIC), & Universidad de Valencia (UV)

Slides at https://github.com/SimonDedman/elasmo_analyses



Rules



Extraction



- Keyword presence
- Keyword frequency & thresholds
- Keyword presence/frequency + local anchors, e.g. needs elasmobranch words in nearby sentences

https://github.com/SimonDedman/elasmolyses/tree/main/docs/schema_proposals

Keyword rules > 8 Schema Groups, 1,725 Columns



Ecosystem (20 cols)
Habitat, depth zones, ocean features



Species (>1,308 cols)
Every known elasmobranch species
matched by binomial name



Discipline (19) + Techniques (215 cols)
Biology, genetics, movement, etc.
Analytical methods: telemetry, stable isotopes, eDNA, etc.;



Ocean Basin (9 cols)
Global geographic coverage



Pressure (26) + Gear (29) + Impact (25)



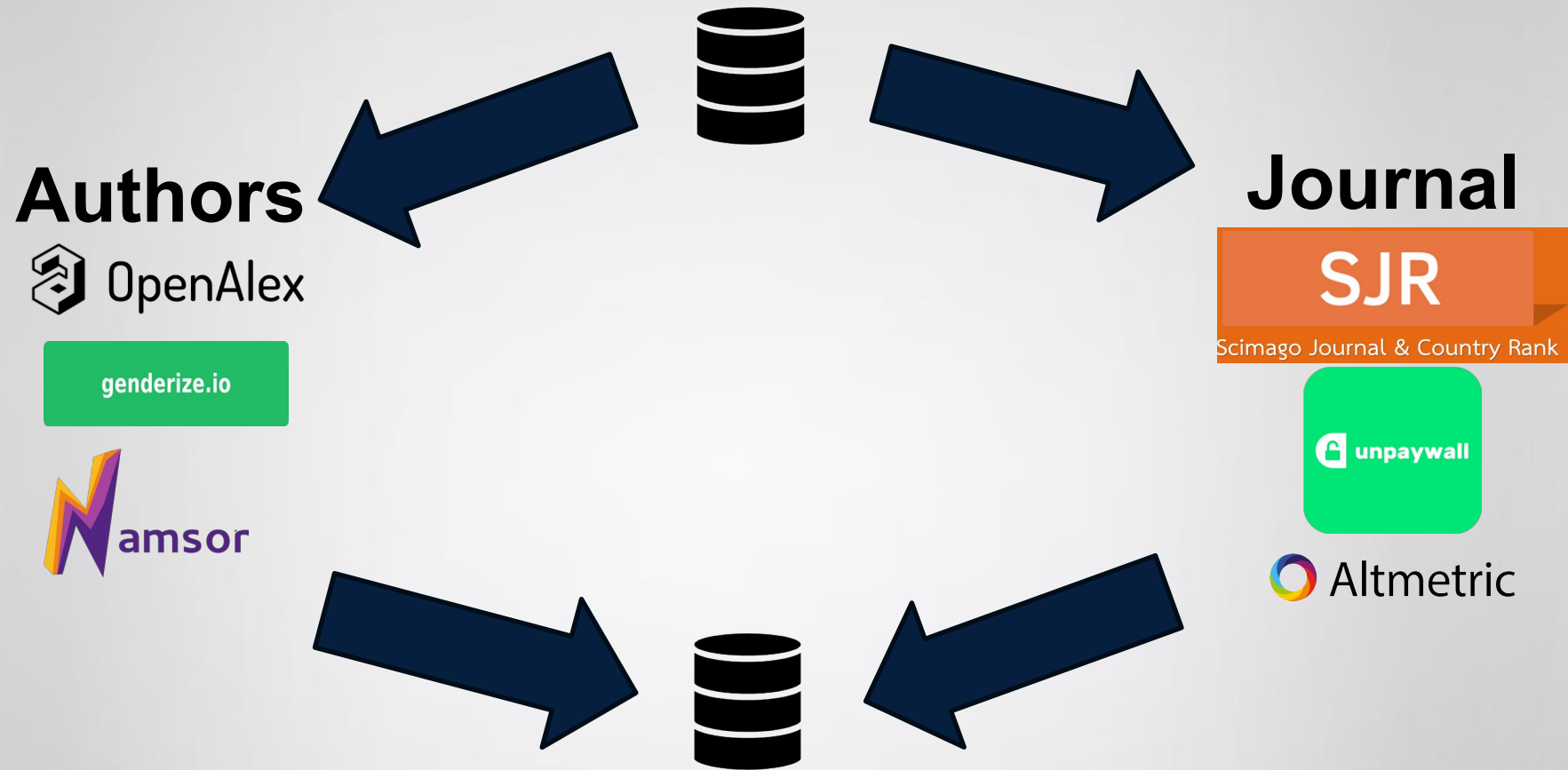
Bycatch, pollution, climate;
Gear types, mitigation;
abundance,
mortality, growth, genetic, etc



Your keywords, your rules, your results.

Shagreen?
Social aggregations?
Shenanigans?
Mislabelling?

Author & journal info enrichment



Simon Dedman

Guuske Tiktak

Elena
Fernández
Corredor
David Shiffman

David Ruiz
García

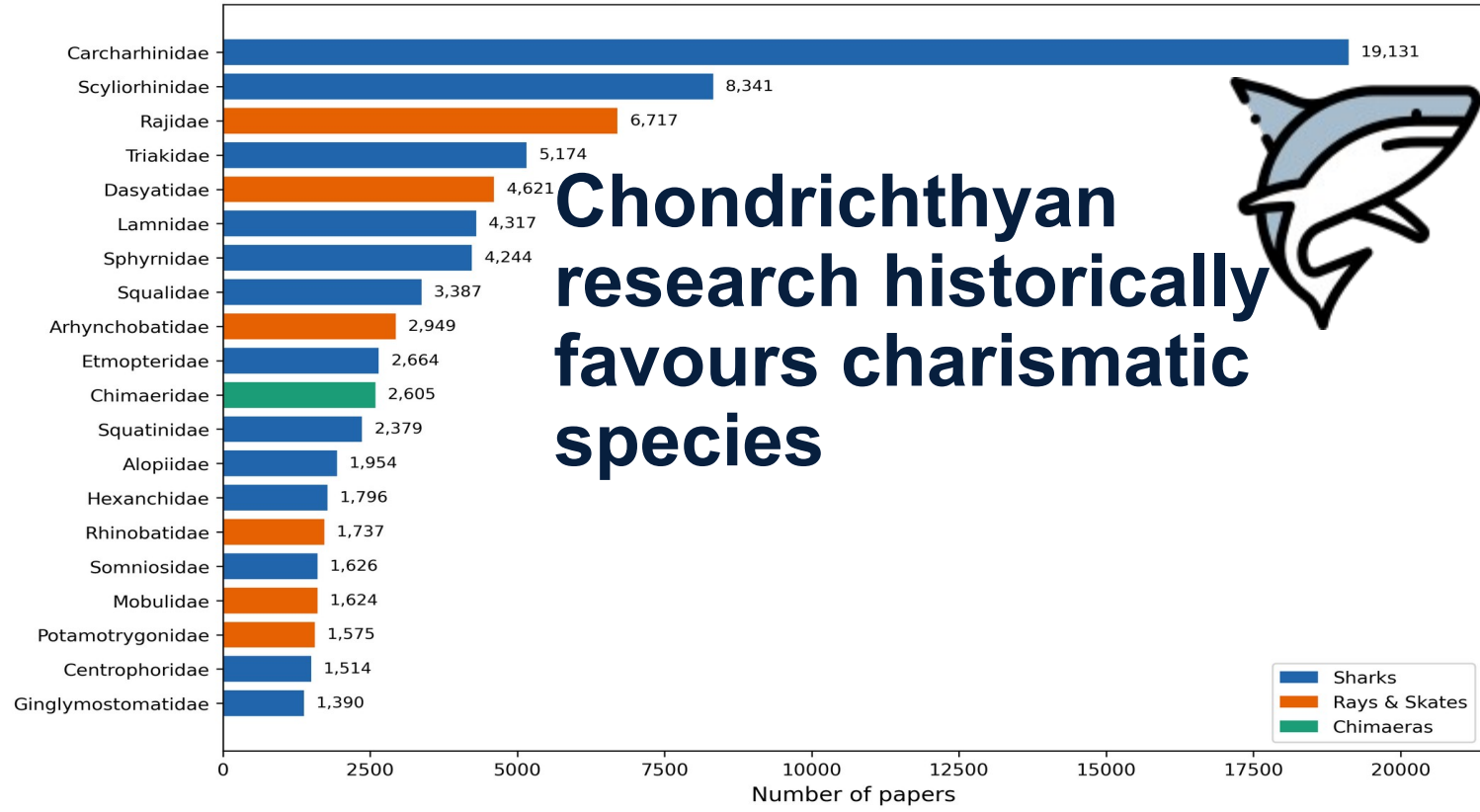
Chris Mull?

Alex McInturf

Planned studies & project leads

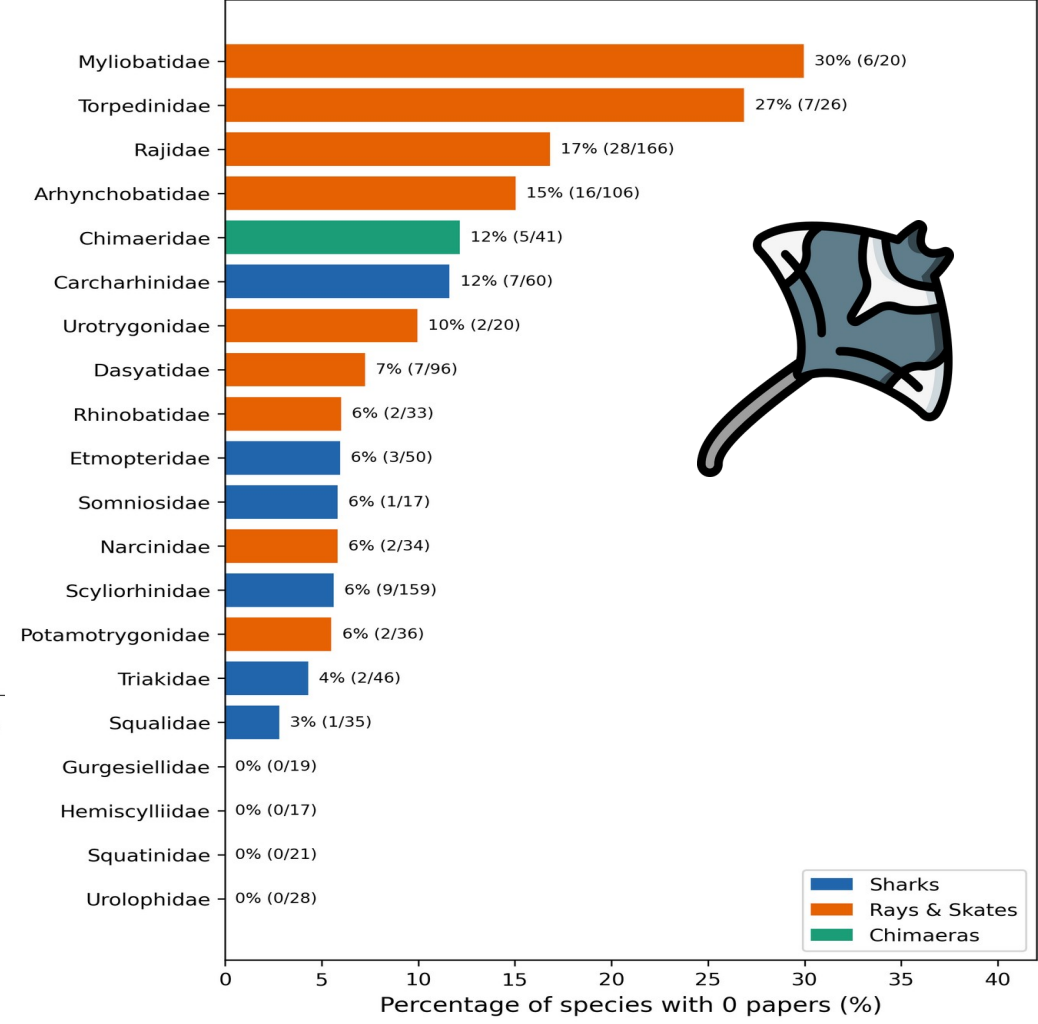
1. **Meta-paper:** the full systematic review & pipeline
2. **Geographic bias:** research deserts, global north & south
3. **Gender:** representation across disciplines & regions
4. **Social attention:** what drives public engagement?
5. **Fishing pressure:** overlap → mortality → mitigation framework
6. **Species/Family/Genus, & Habitat:** what are we studying, where?
7. **Social aggregations:** sharks together
8. **Others???** — journal quality? techniques?

Top 20 most-studied families

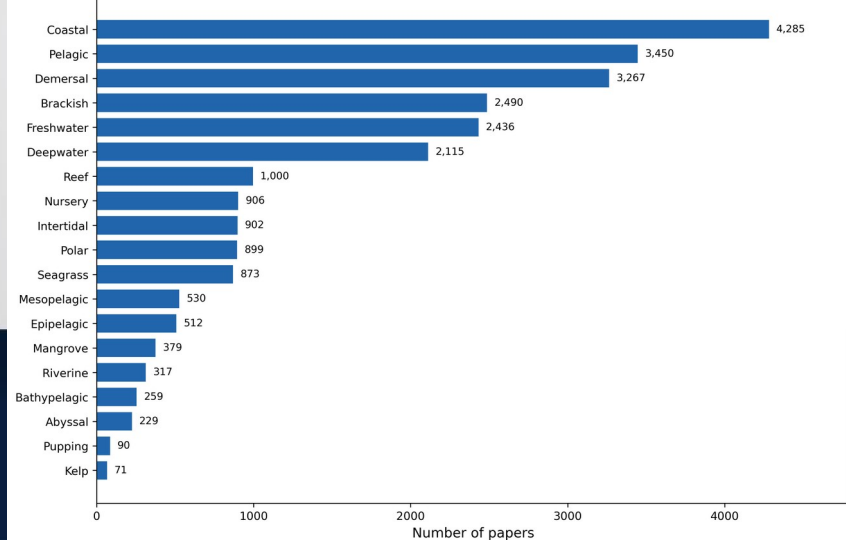


Species & Habitat Bias

Research gaps: unstudied species in the 20 largest families

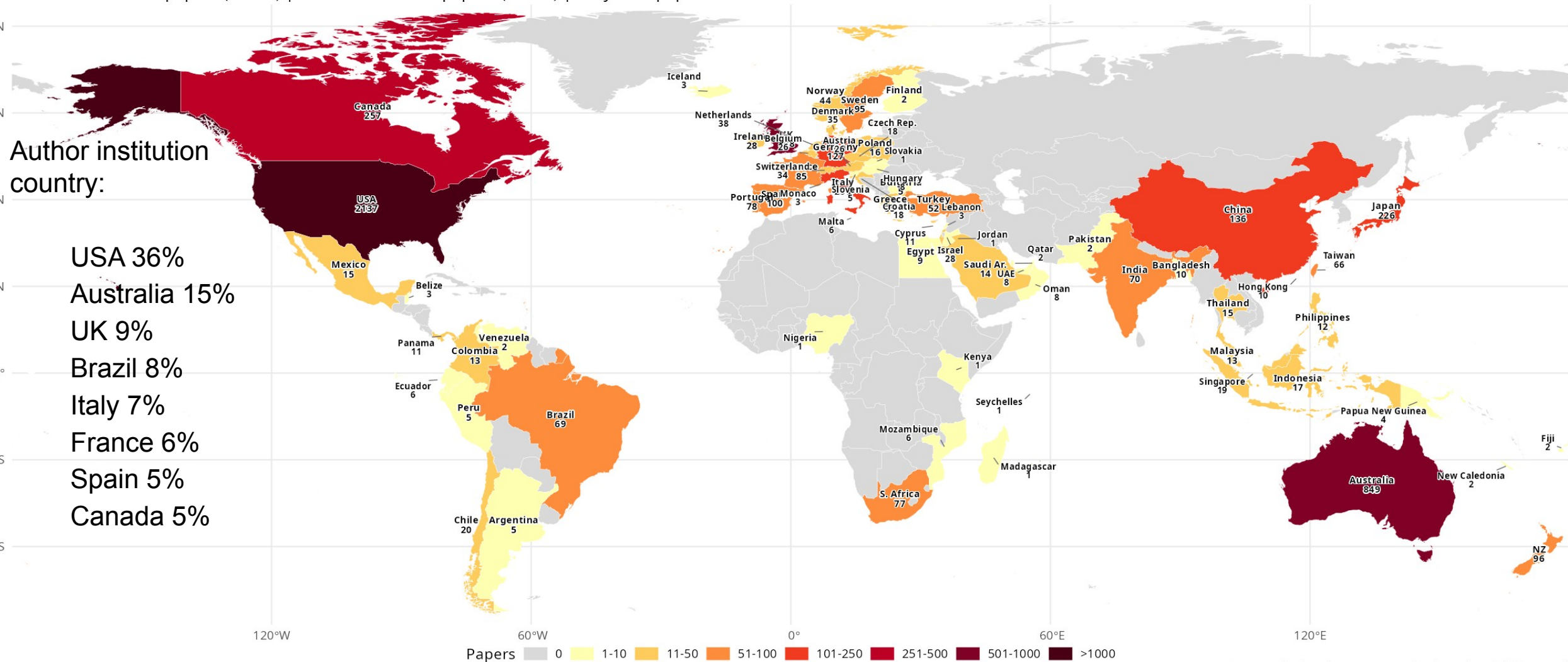


Papers by ecosystem/habitat type



Global Distribution of Shark Research Papers

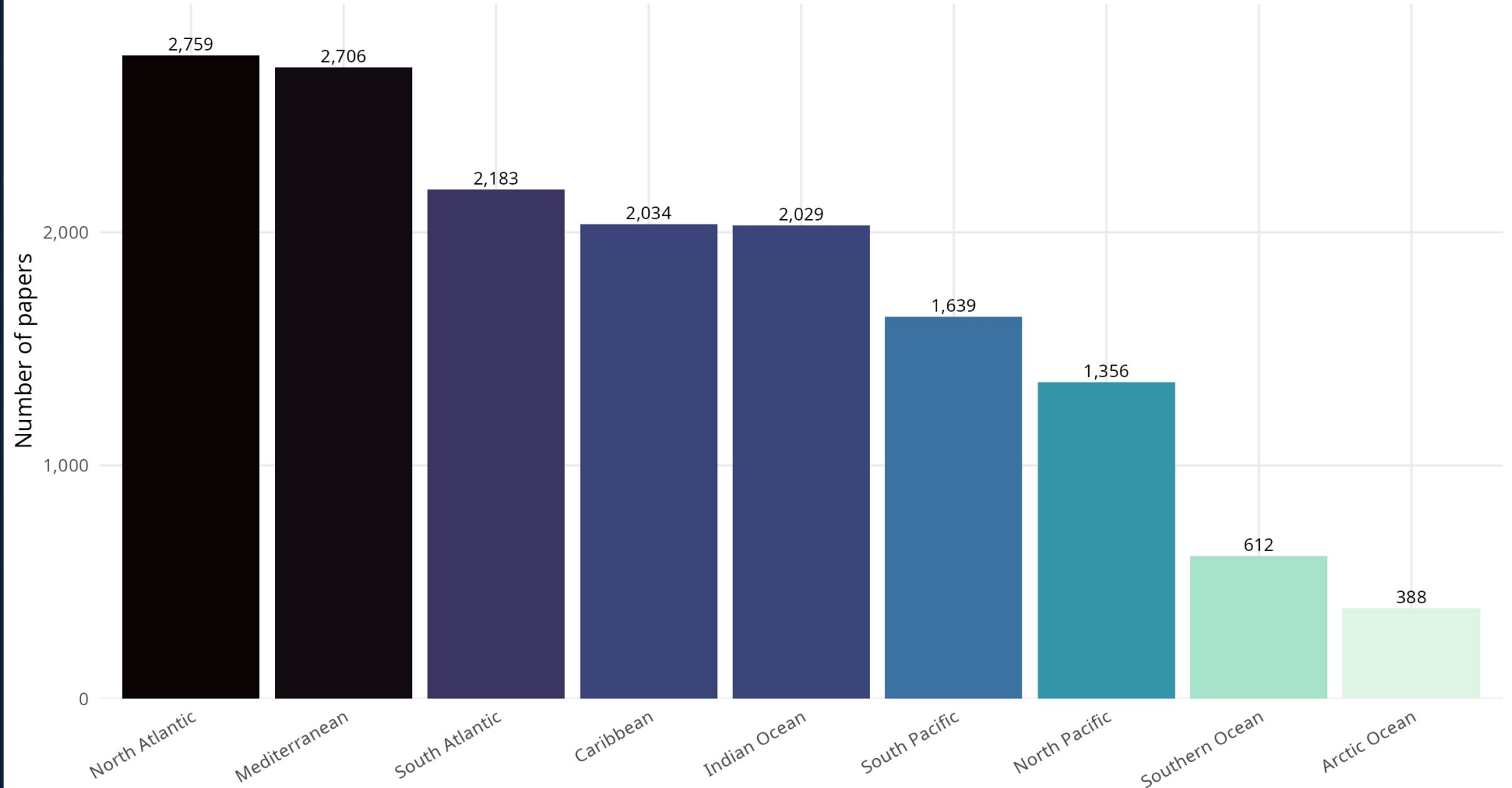
Global North: 5383 papers (87.1%) | Global South: 800 papers (12.9%) | Grey = no papers



More research effort in the North Atlantic & Med

Elasmobranch research by ocean basin

Papers classified per basin (multi-label, papers with PDFs)



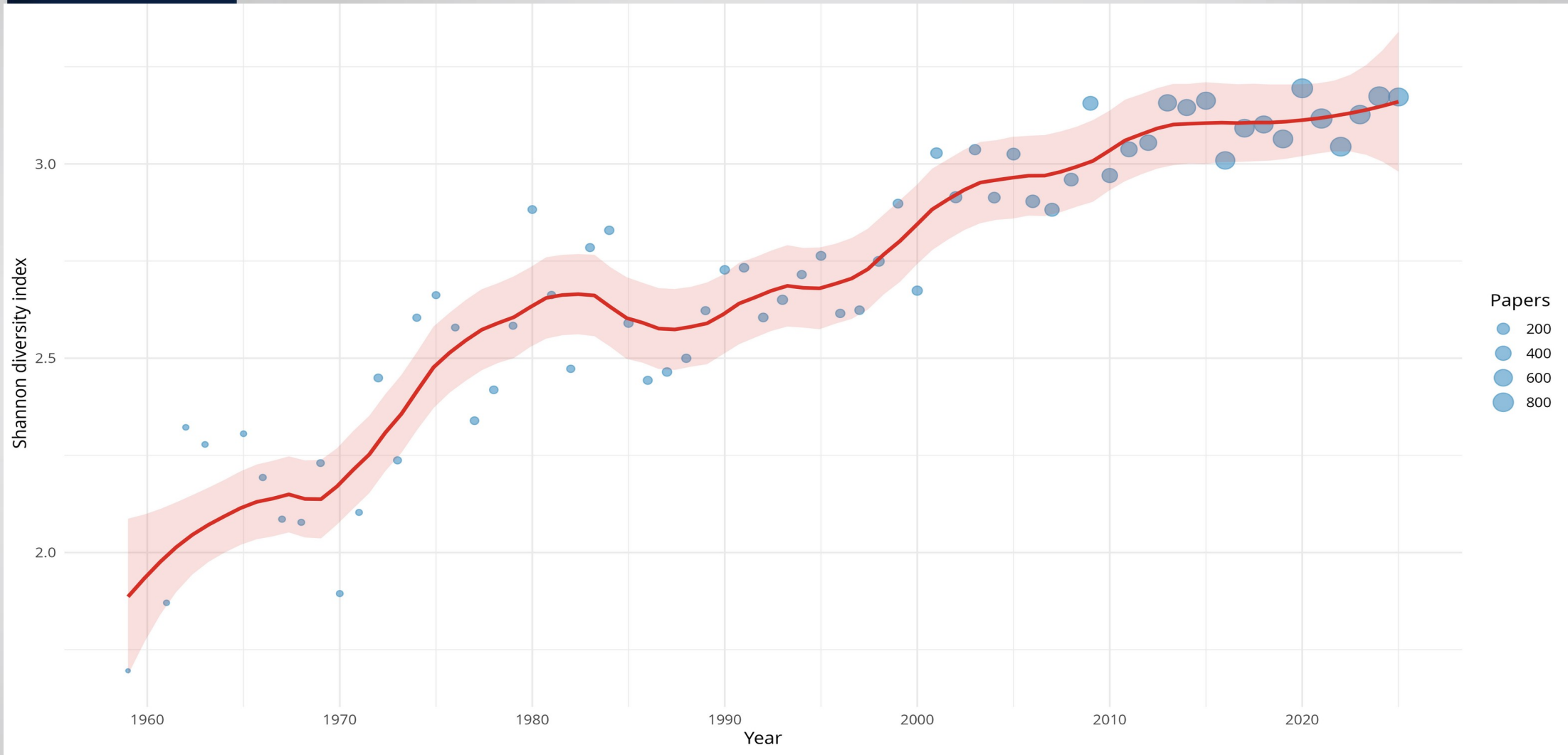
CANADA



AUSTRALIA

Data: OpenAlex, 2026-07-10

Ethnic diversity of 1st authors is increasing!

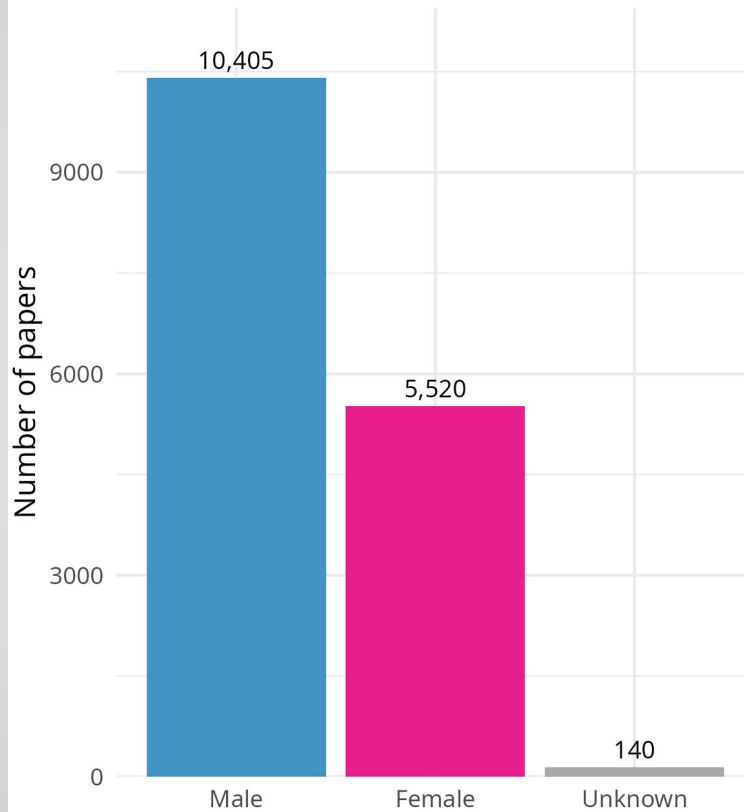


Gender gap has closed!

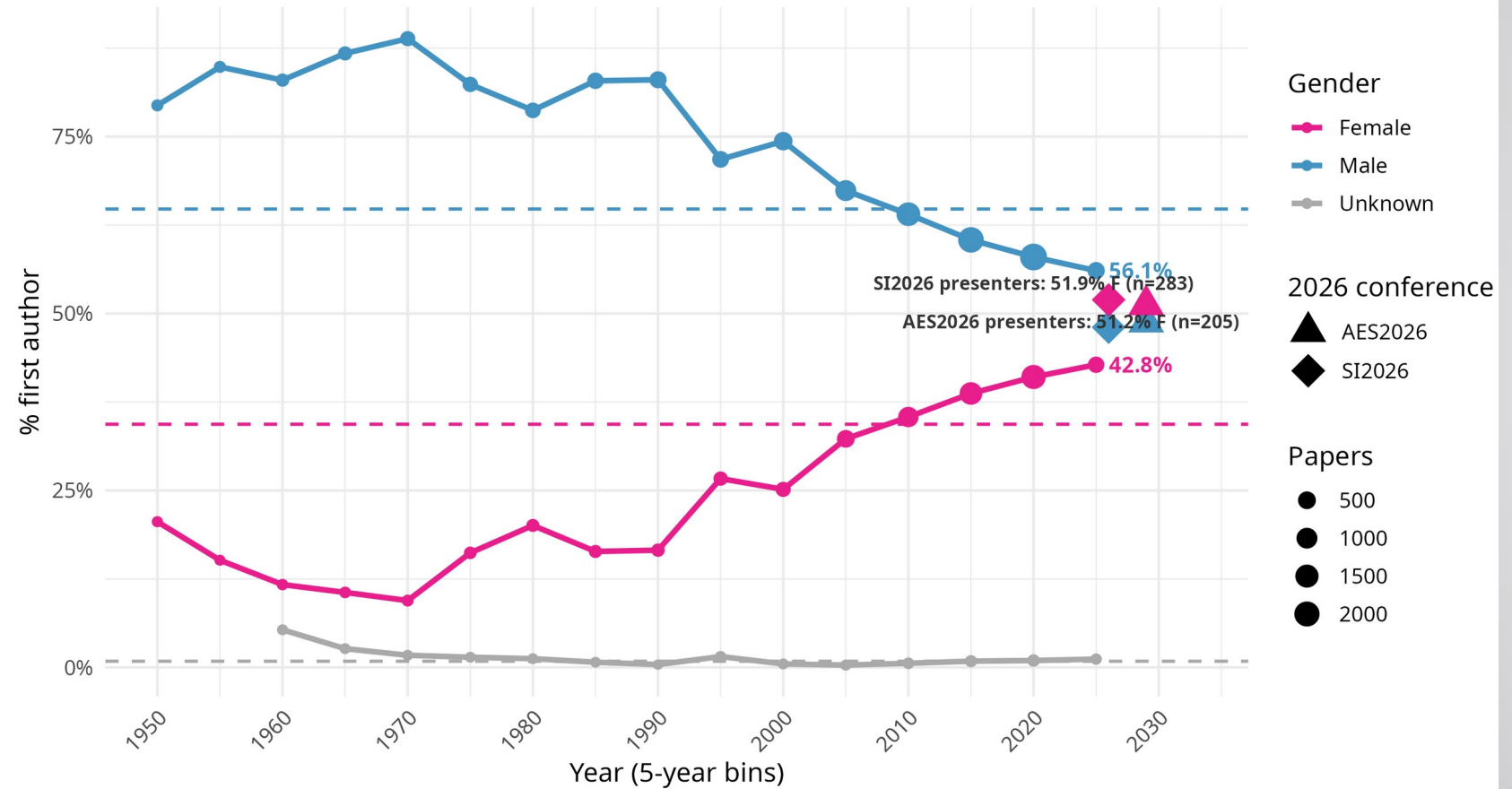
First author gender in elasmobranch research

Left: total counts | Right: % by 5-year period (NamSor-enriched) + 2026 conference presenters

Gender counts



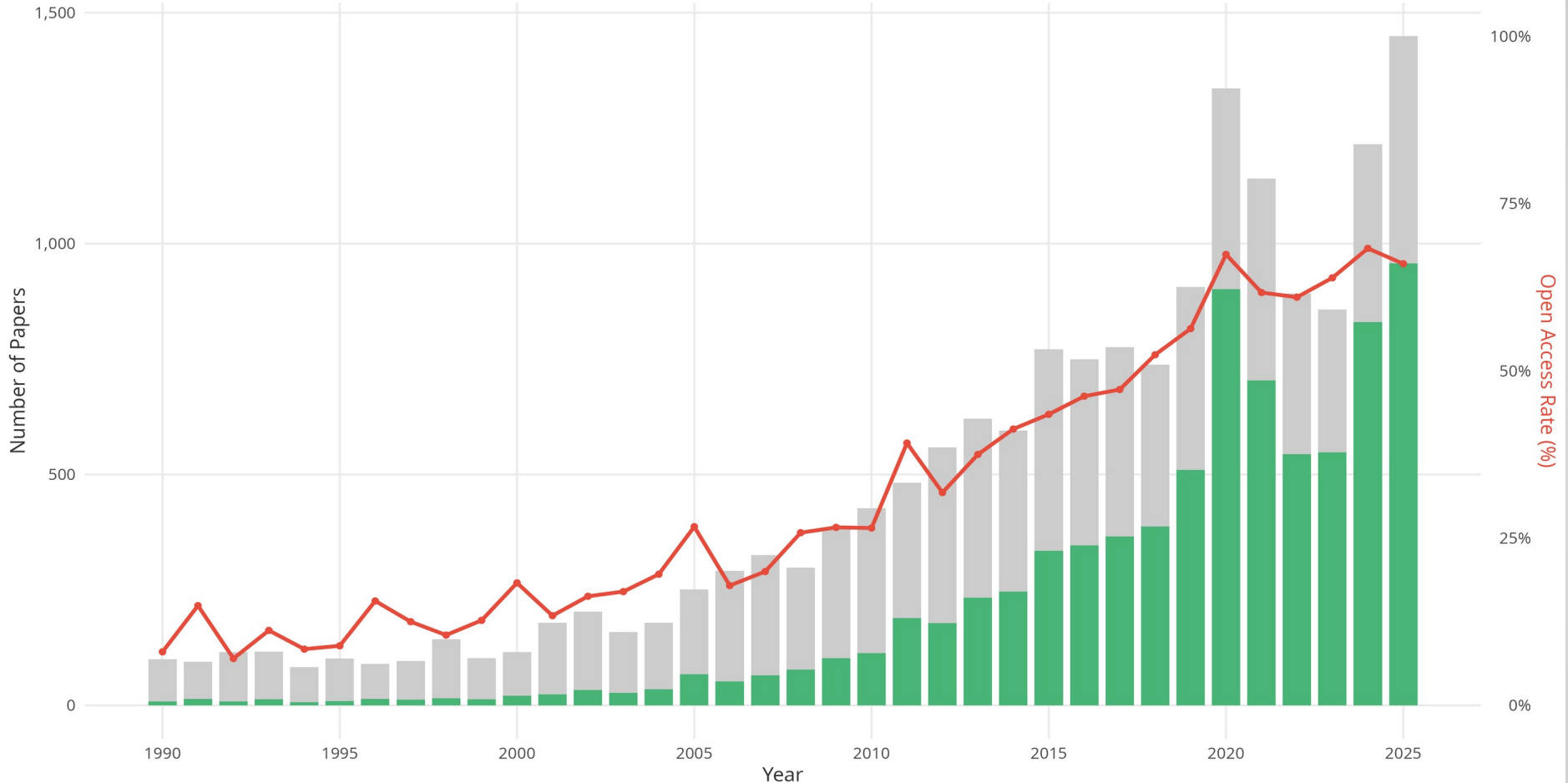
Trend over time



Open Access has increased: win for data transparency and global reach... But!

Open Access in Elasmobranch Research

Grey = total papers; green = open access; red line = OA percentage



Collyer et al., 2016

<https://www.theguardian.com/science/2013/dec/09/nobel-winner-boycott-science-journals>

Early results! Biases & challenges remain

- Method is still being fine-tuned.
- SharkReferences better known in the US and Europe.
- Challenge downloading all chondrichthyan papers.
- Illuminating blind spot for the local and regional expertise published in other languages.
- First author bias.
- Peer-review bias.



Improvements, but gap remains!

- Bias **decreasing**, Global South representation **improving**.
- But...Global North still leads the research, meaning that **people** living where the sharks are (mostly Global South) aren't the ones being empowered to lead the science.
- Chondrichthyan **declines** cannot be mitigated if the people living in the hotspots are **excluded** from the research leadership.

Caldwell et al., 2024; Chapman et al., 2024; Dawson et al., 2024

Simon Dedman

Florida International University · OpenAlex: A5086753224 · 14 papers in database

Validate your data

Institution (San Carlos, California, US)
Florida International University

Gender*
M (male)

▼

(originally:)

Origin country* (Europe)
GB

Ethnicity / diaspora*
British

Corrections welcome. Changes saved automatically. *NamSor inference from name & country only.

▼ 2025 Guttridge et al. Stay or go? Space and resource use of the great hammerhead (Sphyrna mokarran) o... Frontiers In Marine Science Pending

Year: 2025 Journal: Frontiers In Marine Science DOI: 10.3389/fmars.2025.1544482 Study type: empirical Epoch: Recent OA: gold (cc-by) Altmetric: 493.3 (very high) tweets:3.0 · news:69.0 · Mendeley:35.0 · pct(journal):99.0% ID: 34390 SR habitat: marine pelagic

Authors: Guttridge, T.L. & Heim, V. & Dedman, S. & Guttridge, A.E. & Bain, S.A. & Keller, B.A. & Matich, P. (2025)

Ocean Basin [rules ↗](#)

☐ arctic ocean

☒ caribbean ⓘ

☐ indian ocean

☐ mediterranean

☒ north atlantic ⓘ

☐ north pacific

☐ south atlantic ⓘ

☐ south pacific ⓘ

☐ southern ocean

► Extraction rules — Ocean basin — 9 binary columns indicating which ocean basin(s) the study covers. (9 rules)

Rating:

Correct

Partially correct

Incorrect

Notes:

https://simondedman.github.io/elasmo_analyses/validate/
https://github.com/SimonDedman/elasmo_analyses/issues

Rule feedback:Threshold: current

⌵

Reset

 Add term: e.g. demersal

+

 Remove term: e.g. pelagic

+

Ocean Sub-basin [rules ↗](#)

☐ adriatic sea

☐ aegean sea

☐ alboran sea

☐ andaman sea

☐ arabian sea

☐ azores

☒ bahamas ⓘ

☐ baltic sea

☐ barents sea

☐ bay of bengal

☐ bay of biscay

☐ benguela

☐ bering sea

☐ black sea

☐ california current

☒ caribbean sea ⓘ

☐ celtic sea

☐ coral sea

☐ east china sea

☐ english channel

☐ gulf of alaska

☐ gulf of california

☐ gulf of guinea

☐ gulf of maine

☒ gulf of mexico ⓘ

☐ hawaii

☐ ionian sea

☐ irish sea

☐ ligurian sea

☐ mozambique channel

☐ north sea

☐ norwegian sea

☐ persian gulf

☐ philippine sea

☐ red sea

☐ sargasso sea

☐ sea of japan

☐ sea of marmara

☐ sea of okhotsk

☐ south china sea

☐ tasman sea

☐ tyrrhenian sea

☐ yellow sea

► Extraction rules — Ocean sub-basin — 66 binary columns covering finer geographic regions (Mediterranean, Gulf of Mexico, Sea of Japan, California Current, ...). (2 rules)

Rating:

Correct

Partially correct

Incorrect

What's next for elasmom_analyses?

- More downloading
- Rule validation
- Dashboards
- Gap analysis - timelines, maps
- Living Database
- AI chatbot
- Sharkipedia connect

HELP US! (to help you)

- Submit your papers to SharkReferences.com
- Validate your papers on our GitHub
https://simondedman.github.io/elasmom_analyses/validate/
- Talk to us about lit reviews

Thank You



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Collaborators: Alex McInturf, David Shiffman, and more...

SharkReferences: Jürgen Pollerspöck & Nicolas Straube

David Ruíz García

Universidad de Valencia (UV)

To get involved, contact us, & see project here:

https://github.com/SimonDedman/elasmo_analyses

Slides: https://github.com/SimonDedman/elasmo_analyses

Map: https://simondedman.github.io/elasmo_analyses/network_atlas/



SFU

FIU

IT'S COMING HOME

KUD *sux*. See Vital Heim's talk Sunday
10:00am, Conservation & Management 2

Natal philopatry of spherical group sports trophies to
South Britain, Rice et al. 2026