Ecología Austral 35: 838-844 Agosto 2025
Asociación Argentina de Ecología
https://doi.org/10.25260/EA.25.35.2.1.2602

Gender and ecology: Women's representation in the Brazilian ecology congresses

Julia Ghion[1]; Elenir A. Queiroz[1]; Paula Meli[2,3,4] & Débora C. Rother[1,✉]

[1] Centro de Ciências da Natureza, Laboratory of Conservation and Ecological Restoration, Federal University of São Carlos, Buri. São Paulo, Brazil. [2] Laboratorio de Estudios del Antropoceno, Universidad de Concepción. Chile. [3] Natura y Ecosistemas Mexicanos, A.C. Ciudad de México, México. [4] Fundación Internacional para la Restauración de Ecosistemas, Argentina. Colón, Argentina.

Abstract. Despite the social and legal advances of recent decades, gender inequality persists, imposing distinct professional barriers on men and women in their scientific careers. This study analyzes gender representativeness in papers presented at the Brazilian congresses of ecology in the years 2000, 2009 and 2019. We assessed the gender of the total number of authors attending each congress (representativeness). Furthermore, for each paper, we evaluated the gender of the first author (leadership), and the percentage of women in the total number of papers, separately in papers led by women and by men (collaboration). We compared these values using chi-square tests. Gender identification was based on the first name of each author, following Portuguese language conventions. Out of a total of 2169 papers presented across the three congresses, in 435 it was not possible to identify the gender of the authors due to the absence of a first name. Of the total identified authorships, 60% were women. The representativeness of women varied between 40% and 45% and, while it did not show significant variation over time, a potential decreasing trend in recent years should be assessed. When considering the gender of the first author, female leadership (number of papers with a female first author) was significantly higher; however, this was not the case when papers with unidentified gender were excluded. The proportion of women in teams led by women was twice as high as the proportion in teams led by men, suggesting greater collaboration among women. We conclude that further investigation of this information is still necessary, and we emphasize the importance of advancing towards gender equity in the academic sphere, promoting greater visibility and equal opportunities for women in science.

[Keywords: collaboration, gender equality, inequality, leaked pipeline, women leadership]

Resumen. Género y ecología: La representación de las mujeres en los congresos brasileños de ecología. A pesar de los avances sociales y legales de las últimas décadas, la desigualdad de género persiste, imponiendo barreras profesionales distintas para hombres y mujeres en sus trayectorias científicas. Este estudio analiza la representatividad de género en los trabajos presentados a los congresos brasileños de ecología de los años 2000, 2009 y 2019. Evaluamos el género del número total de autores(as) que asistieron a cada congreso (representatividad). Además, para cada trabajo evaluamos el género del primer(a) autor(a) (liderazgo) y el porcentaje de mujeres en el total de trabajos, y por separado en trabajos liderados por mujeres u hombres (colaboración). Comparamos estos valores con pruebas de chi-cuadrado. La identificación de género se basó en el primer nombre de cada autor(a), siguiendo las convenciones del idioma portugués. De un total de 2169 trabajos presentados en los tres congresos, en 435 no fue posible identificar el género de las autorías debido a la ausencia del primer nombre. Del total de autorías identificadas, el 60% fueron mujeres. La representatividad de las mujeres varió entre el 40% y el 45%, y aunque no se registró una variación significativa a lo largo del tiempo, se debería evaluar una posible disminución en los últimos años. Cuando se consideró el género del primer(a) autor(a), el liderazgo de mujeres (número de trabajos con mujeres en primera autoría) resultó significativamente mayor, pero no cuando se excluyeron los trabajos con el género no identificado. La proporción de mujeres en equipos liderados por mujeres resultó dos veces mayor que la proporción en aquellos equipos liderados por hombres, sugiriendo una mayor colaboración. Concluimos que aún se necesita una mayor investigación sobre esta información, y resaltamos la importancia de avanzar hacia la equidad de género en el ámbito académico y de aumentar la visibilidad e igualdad de oportunidades para las mujeres en la ciencia.

[Palabras clave: colaboración, desigualdad, equidad de género, liderazgo en mujeres, tubería con fugas]

Editora asociada: Florencia Spirito
✉ deborarother@ufscar.br

Recibido: 1 de Agosto de 2025
Aceptado: 11 de Octubre de 2025

Introduction

Historically, women have been significantly underrepresented in science (Holman et al. 2018), and their scientific contributions have been systemically undervalued (Huang et al. 2020; Ross et al. 2022). While in recent years social and legal changes have enabled women to gain ground in the research arena, broad scientific recognition is still achieved by only a select few (Olinto 2011; Ovseiko et al. 2016; Rodrigues et al. 2021). In sum, men and women continue to face unequal career barriers that profoundly impact their opportunities and professional recognition (Lino et al. 2016; Astegiano et al. 2019).

In Brazil, academia reflects the global challenges faced by young people and women in science, including financial constraints, family commitments and caregiving responsibilities, which are more pronounced compared to those experienced by men in similar situations (Milani and de Sousa 2018; Bhadra et al. 2025). For example, despite achieving higher education levels than men, women seldom reach leadership positions: while women represent 47.3% of professors in Brazilian higher education institutions, men continue to dominate senior teaching positions (IBGE 2024). Furthermore, the number of women reaching higher research excellence levels is significantly lower than in the first stages of their careers (Stariolo 2017). By 2019, only one in four senior A1 researchers —the highest category established by the National Council for Scientific and Technological Development (CNPq) (British Council 2024)— was a woman. Moreover, investment in male researchers surpasses that for women by approximately R$100 million (US$18.7 million) (Monnerat 2017). All these asymmetries consistently highlight the challenges women face in scientific research and leadership roles (Bernardes et al. 2021), leading to the 'leaky pipeline' phenomenon (Chuliver et al. 2021; Reyes et al. 2025).

Achieving representation and leadership in science requires publishing in high-impact journals and accessing funding sources, but also participating in scientific meetings to obtain social validation and visibility, establishing professional networks (Martin 2014; Oester et al. 2017; de León and McQuillin 2020). Women underrepresented in scientific meeting is well documented worldwide (e.g., Chuliver et al. 2021; Hughes et al. 2023), but it has not yet analyzed in the Brazilian context. In this study, we analyzed the representation and leadership of women in publications from the Brazilian Ecology Congress as an illustrative example of these gender biases. We analyzed temporal variations in women's participation, leadership, and collaboration among the first (2000), tenth (2009) and fourteenth (2019) Brazilian ecology congresses. By investigating these trends over time and identifying authorship gaps, this research contributes to understand the manifestation of gender disparities in academic ecology in Brazil.

Materials and Methods

We constructed a gender-database using the book of abstracts published on to the Brazilian Ecology Congress website for the years 2000, 2009 and 2019 (for more details, visit the Brazilian Ecological Society website). For each work presented in the congresses, we analyzed the gender of the first author, the total number of authors, the total number and proportion of women and the women/men ratio. Gender identification was determined using each author's first name, based on common Portuguese language conventions. For cases involving name abbreviations, we used platforms such as ResearchGate, Google Scholar and Escavador to obtain full names and determine gender. Due to limitations in the database (e.g., the presence of author name abbreviations), a binary gender approach was necessarily assumed (i.e., woman-man). Thus, we recognized that the gender attributed to the first author may not correspond to their self-declared gender identity. Descriptive analyses include temporal variations across Congresses in the women numbers and proportions to identify trends in women participation (i.e., number of women assisting), representation (i.e., percentage of women in authorship), leadership (i.e., number of studies led by women) and collaboration (i.e., women proportion in teams led by women and by men). The chi-square test was used to evaluate these numbers and proportions. In the analysis, $P<0.05$ were considered statistically significant (R Core Team 2023).

Results

In the First Brazilian Ecology Congress (2000), 200 authors participated, with 79 women (40%) and 179 men (60%) (Figure 1, Table 1). By 2009, the total number of participants had increased dramatically to 7016 (over a 1000% increase). The gender distribution for identified authors

in 2009 was relatively balanced (women: 1601 [23%]; men: 1701 [24%]), but the majority of participants (3713 [53%]) lacked an identified gender (Table 1). Lastly, in the 2019 congress, the number of participants decreased, with a total of 653 persons, being 292 (44%) women, 271 men (42%) and 90 (14%) without an identified gender. Women´s representation varied across years (X^2=8.526, df=2, P=0.014).

In terms of women's leadership, the proportion of women as first authors varied across the congresses (X^2=8.724, df=2, P=0.0127) (Figure 1, white circles), while the ratio of studies (women-first-author) / (men-first-author) was always above 1, specifically 1.70 (2000), 1.27 (2009) and 1.68 (2019) (Table 1). The first congress (2000, 62 studies total) featured women as the first author in the majority of submissions (63%, n=39), vs. 37% (n=23) for men. By the tenth congress (2009), the total number of studies increased to 1717, showing a more balanced yet complex distribution: women represented 45% (n=771) of first authors and men 35% (n=605), with 20% (n=341) of submissions having an unidentified gender. Finally, the fourteenth congress in 2019 (390 articles) showed women as first authors in 48% (n=188) of articles, men in 29% (n=112), and an unidentified gender in 23% (n=90) of submissions. However, when considering only the studies with an identified first author gender, we found that women led in general, a similar number of studies than men (X^2=5.224, df=2, P=0.0734) (Figure 1, black circles).

Regarding collaboration, the involvement of women as coauthors was consistently higher in teams led by women than in those led by men (X^2=23.032, df=2, P<0.0001) (Figure 2). In fact, the proportion of women coauthors was always at least two-fold higher in women-led studies.

Table 1. Number of studies classified by the gender of the first author and total number of studies published in the Proceedings of the Ecology Congress of Brazil in the years 2000, 2009 and 2019.

Tabla 1. Número de trabajos presentados en los Anales del Congreso de Ecología de Brasil en los años 2000, 2009 y 2019, según el género del (de la) primer(a) autor(a) y número total de estudios.

	First author				
Year	Women	Men	Non determined gender	Total number of studies	Proportion of women (%)
2000	39	23	0	62	63
2009	771	605	341	1717	44.9
2019	188	112	90	390	48.2
Total	998	740	431	2169	46

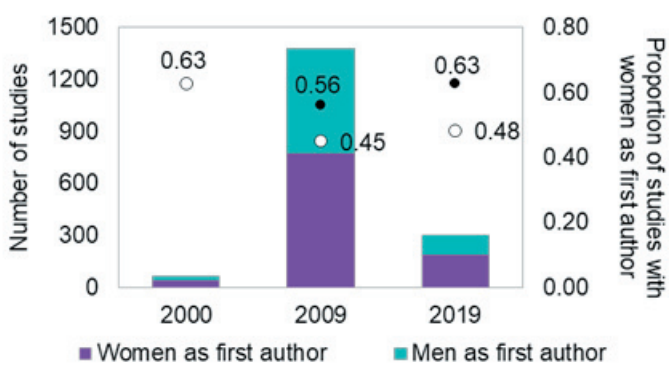

Figure 1. Number of people (bars) and proportion of studies led by women (circles) presented in the Proceedings of the Brazilian Ecology Congress in the years 2000, 2009 and 2019, according to the gender of the author. The black circles show the proportion of studies with a woman as the first author out of the total number of studies only in those studies with the gender of the first author is identified; the white circles show the same proportion, but including papers with unidentified authorship.

Figura 1. Número de personas (barras) y proporción de trabajos liderados por mujeres (círculos) presentados en los Anales del Congreso de Ecología de Brasil en los años 2000, 2009 y 2019, según el género del(de la) primer(a) autor(a). Los círculos negros muestran la proporción de trabajos con mujeres como primera autora del total de trabajos; los círculos blancos, la misma proporción, pero excluyendo trabajos con autorías no identificadas.

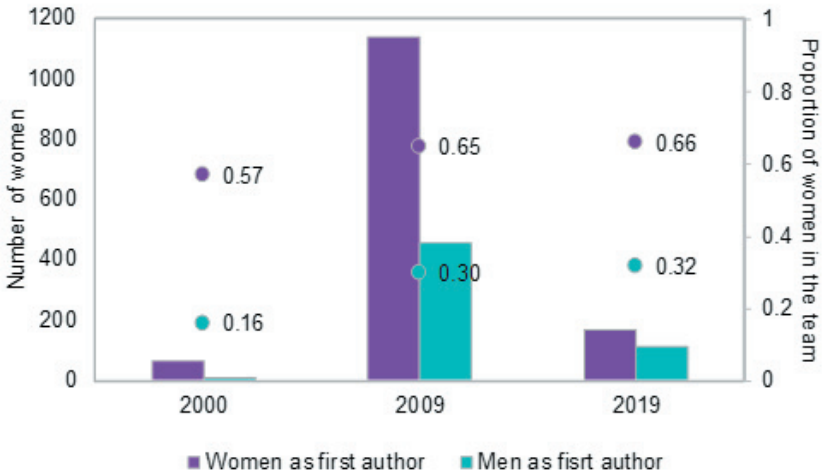

Figure 2. Total number of women (columns) and proportion of women in the teams (dots) in studies in the Proceedings of the Brazilian Ecology Congress of 2000, 2009 and 2019, when the first author is women or men.

Figura 2. Número total de mujeres (columnas) y proporción de mujeres (círculos) en los equipos de trabajo de estudios publicados en los Anales del Congreso de Ecología de Brasil en los años 2000, 2009 y 2019, según el género del primer(a) autor(a).

Discussion

Our analysis of authorship patterns across three Brazilian ecology congresses reveals a complex picture of gender representation. Contrary to the well-documented underrepresentation of women in ecological publications (Fox et al. 2016; Maas et al. 2021), we found that women's participation as authors in these congresses was relatively balanced, and female leadership —measured by first authorship— was significant and even predominant in some years. This suggests that scientific conferences in Brazilian ecology may serve as a more accessible and equitable platform for women to present their work compared to the peer-reviewed publication system.

The high proportion of women as first authors is a notable and positive finding. However, this result must be interpreted with caution. When considering only studies with identified gender, female and male leadership were similar. This highlights a major methodological challenge in our and similar studies: the high number of authors with unidentified gender, primarily due to the use of initials. This issue was particularly pronounced in the 2009 congress, where over half of the authorships could not be classified. The difficulty in gender identification, stemming from database limitations and naming conventions, is a significant constraint that future research must address to obtain a more complete understanding of these dynamics.

Globally, gender studies have demonstrated a low representation of women in leadership positions and prominent roles in ecology (Hughes et al. 2023; Joyce et al. 2024). Moreover, a low proportion of women occupying high-exposure and high-visibility positions at academic meetings (e.g., those invited by the scientific committee to participate in conferences and symposia) was documented in other studies (Chuliver et al. 2021). Furthermore, although the proportion of women among editorial boards and reviewers has gradually increased, they remain underrepresented in important editorial roles, and women represent only 31% and 23% of all and last authors in ecology, respectively (Fox et al. 2019). This gender imbalance highlights historical biases in ecology. For instance, a study in Chile (Araneda-Guirriman et al. 2023) reported higher scientific output by men in indexed journals, and lower women's authorship in ecology publications in Brazil (Maas et al. 2021) and in Ecuador (Herrera-Franco et al. 2025), albeit with a recent increase in women's participation. These discrepancies highlight the need for conducting more detailed, discipline-specific studies across diverse Latin American contexts to understand the gender dynamics that influence scientific productivity. Studies on scientific publications in other disciplines have recorded this trend in first authorships (Fox et al. 2019; Salerno et al. 2019; Frances et al. 2020), while the trend of women's participation as last authors declines over time, likely indicating a shorter active period in their scientific careers (Grosso et al.

2021). Our results could indicate that women are publishing as first authors during the initial stages of their scientific careers, while occupying positions as project directors or heads of workgroups in lower proportions than men, perhaps evidencing a 'leaky pipeline' effect (Resmini 2016).

Observing co-authorship patterns is interesting because academia is formed by the construction and sharing of ideas and studies, which also affect the individual productivity of researchers (Frances et al. 2020). A key finding of our study is the distinct collaborative patterns between genders. We consistently observed that the proportion of women co-authors was at least two-fold higher in teams led by women compared to those led by men. This indicates stronger collaborative networks among women, or a greater tendency for female leaders to include other women in their research teams (Bozeman and Gaughan 2011). This pattern aligns with broader observations that men are more likely to publish with other men (Frances et al. 2020), a dynamic that can perpetuate gender homophily and limit opportunities for women.

Strong collaboration among women could be associated with their productivity and leadership in ecology, in Brazil as in other Latin American countries, such as other studies in this special number have shown in Argentina (Martínez-Gálvez et al. 2025) and Bolivia (Gómez et al. 2025). A greater awareness among women leaders of structural barriers, having faced them directly, and an active intentionality to empower female talent, may help building more diverse teams. These dynamics would reflect collective strategies to overcome historical disadvantages through the formation of support networks among women.

Women's leadership could accelerate the inclusion of women in science, helping to overcome systemic barriers (Bello et al. 2021). This dynamic could be explained through interrelated and non-mutually exclusive mechanisms. On one hand, by the tendency of established women to form collaborative networks with female colleagues, facilitated by gender-based affinities and shared experiences; and on the other, by the deliberate action of scientific leaders to actively promote the participation and visibility of other women within their research teams.

While our data show robust participation at the congress level, this does not necessarily translate to equity higher up the academic ladder (Zandonà 2022). In Brazil, despite women making up a substantial portion of the academic body, they remain underrepresented in senior research positions (Monnerat 2017; IBGE 2024) and occupy more peripheral positions in collaborative networks (Cornélio 2024). Therefore, the strong presence of women as first authors in congresses may not yet be reflected in leadership within postgraduate programs or in the highest tiers of research excellence.

Applying a gender lens highlights why women disproportionately occupy undervalued positions compared to men, particularly within specific areas of scientific knowledge and academia. This understanding is crucial for demanding actions that seek to change the current scenario for women, both in Brazil and globally. We expect our findings aim to guide future discussions focused on promoting gender equity, visibility, and recognition for women in ecology in Brazil. We conclude that the Brazilian ecology congresses appear to be a space where women ecologists are actively participating and leading scientific presentations. The high level of collaboration among women is a promising finding that could be leveraged to strengthen their scientific networks. However, significant barriers persist beyond conference participation. Future efforts should focus not only on maintaining this level of visibility but also on addressing the systemic issues that create the 'leaky pipeline', ensuring that early-career visibility translates into long-term career advancement, leadership roles and equitable recognition in the field of ecology.

Acknowledgments. We thank the Federal University of São Carlos (UFSCar), Lagoa do Sino campus for institutional support and the infrastructure provided throughout the development of this research. We are also grateful for the academic environment and collaborative opportunities that contributed significantly to this work.

References

Araneda-Guirriman, C., L. Pedraja Rejas, and G. Sepúlveda-Páez. 2023. Brechas de género en la productividad científica: una aproximación desde Chile. Pensamiento Educativo 60:1-14. https://doi.org/10.7764/PEL.60.1.2023.7.

Astegiano, J., E. Sebastián-González, and C. Castanho. 2019. Unravelling the gender productivity gap in science: a

meta-analytical review. Royal Society open science 6:181566. https://doi.org/10.1098/rsos.181566.

Bello, A., T. Blowers, S. Schneegans, and T. Straza. 2021. To be smart, the digital revolution will need to be inclusive: excerpt from the UNESCO science report.

Bernardes, R. M., K. B. V. Torres, and C. R. Costa. 2021. Mulher, esposa e mãe na ciência e tecnologia. Revista Estudos Feministas 29(1):e61470. https://doi.org/10.1590/1806-9584-2021v29n161470.

Bhadra, S., G. Damasceno, D. Hoss, and A. Weyrich. 2025. Equity, diversity and inclusion: Improving gender equity in academia depends on the workplace environment. eLife 14:e105352. https://doi.org/10.7554/eLife.105352.

Bozeman, B., and M. Gaughan. 2011. How do men and women differ in research collaborations? An analysis of the collaborative motives and strategies of academic researchers. Research policy 40:1393-1402. https://doi.org/10.1016/j.respol.2011.03.007.

British Council 2024. Mulheres na Ciência. URL: tinyurl.com/4jhbz8u8.

Chuliver, M., J. Grosso, G. Fontanarrosa, J. Fratani, D. P. Ferraro, A. S. Duport-Bru, et al. 2021. Gender inequities in herpetology: the case of the Argentine community. Cuadernos de Herpetología 35(2):195-205. https://doi.org/10.31017/CdH.2021.

Cornélio, L. de O. 2024. O viés de gênero na ecologia brasileira: uma análise no cenário acadêmico. MSc Thesis, Instituto de Ciências Exatas e Biológicas, Universidade Federal de Ouro Preto, Ouro Preto. Pp. 31.

de León, F. L. L., and B. McQuillin. 2020. The role of conferences on the pathway to academic impact: Evidence from a natural experiment. Journal of Human Resources 55(1):164-193. https://doi.org/10.3368/jhr.55.1.1116-8387R.

Fox, C. W., C. S. Burns, and J. A. Meyer. 2016. Gender differences in peer review outcomes and manuscript authorship in ecology and evolution. Ecology and Evolution 6(23):8493-8500. https://doi.org/10.1002/ece3.4993.

Fox, C. W., M. A. Duffy, D. J. Fairbairn, and J. A. Meyer. 2019. Gender diversity of editorial boards and gender differences in the peer review process at six journals of ecology and evolution. Ecology and Evolution 9(24):13636-13649. https://doi.org/10.1002/ece3.5794.

Frances, D. N., C. R. Fitzpatrick, J. Koprivnikar, and S. J. McCauley. 2020. Effects of inferred patterns of co-authorship in ecology and evolutionary biology publications. The Bulletin of the Ecological Society of America 101(3):e01705. https://doi.org/10.1002/bes2.1705.

Gómez, M. I., K. Naoki, and P. Velásquez-Noriega. 2025. Género y productividad de las publicaciones en ecología en Bolivia: Un análisis de cuatro décadas. Ecología Austral: in press.

Grosso, J., J. Fratani, G. Fontanarrosa, M. Chuliver, A. S. Duport-Bru, et al. 2021. Male homophily in South American herpetology: One of the major processes underlying the gender gap in publications. Amphibia-Reptilia 42(4):407-418. https://doi.org/10.1163/15685381-bja10063.

Herrera-Franco, G., G. Peña-Villacreses, and L. Bravo-Montero. 2025. Women's participation in the research development of a country. International Journal of Educational Research Open 8:100413.

Holman, L., D. Stuart-Fox, and C. E. Hauser. 2018. The gender gap in science: How long until women are equally represented? PLoS Biology 16(4):e2004956. https://doi.org/10.1371/journal.pbio.2004956.

Huang, J., A. J. Gates, R. Sinatra, and A. L. Barabási. 2020. Historical comparison of gender inequality in scientific careers across countries and disciplines. Proceedings of the National Academy of Sciences 117(9):4609-4616. https://doi.org/10.1073/pnas.1914221117.

Hughes, A. C., K. Z. Than, K. C. Tanalgo, A. P. Agung, T. Alexander, et al. 2023. Who is publishing in ecology and evolution? the underrepresentation of women and the Global South. Frontiers in Environmental Science 11:1211211. https://doi.org/10.3389/fenvs.2023.1211211.

IBGE. 2024. As mulheres do Brasil. URL: tinyurl.com/554jx49v.

Joyce, J. A., S. Masina, L. Michalik, C. Pot, C. Sempoux, and F. Amati. 2024. Closing the scissor-shaped curve: Strategies to promote gender equality in academia. Cell 187(6):1335-1342. https://doi.org/10.1016/j.cell.2024.01.050.

Lino, T. R., and C. Mayorga. 2016. As mulheres como sujeitos da Ciência: uma análise da participação das mulheres na Ciência Moderna. Saúde e Transformação Social 7(3):96-107. URL: tinyurl.com/5e6afyyk.

Maas, B., R. J. Pakeman, L. Godet, L. C. Smith, V. Devictor, and R. B. Primack. 2021. Women and Global South strikingly underrepresented among top-publishing ecologists. Conservation Letters 14(4):e12797. https://doi.org/10.1111/conl.12797.

Martin, J. L. 2014. Ten simple rules to achieve conference speaker gender balance. PloS Computational Biology 10(11):e1003903. https://doi.org/10.1371/journal.pcbi.1003903.

Martínez-Gálvez, M. F., P. V. Zelaya, M. L. Sandoval-Salinas, S. Lomáscolo, G. Fontanarrosa, et al. 2025. Crónica de una desigualdad: El caso de la ecología en la Argentina. Ecología Austral 35(2bis):XXX-XXX. https://doi.org/10.25260/EA.25.35.2.1.2505.

Monnerat, A. 2017. 'Glass ceiling' in science: only 25% in the highest CNPq category are women. Gender and Number, Rio de Janeiro, 12 September 2017. URL: tinyurl.com/y3wdhjh5.

Milani, S. O., and B. P. de Sousa. 2018. Pseudônimos de autoras, aspectos contingenciais e o seu protagonismo social: FRAD, FRSAD e a representação temática em catálogos online. Liinc em Revista 14(2):329-345 https://doi.org/10.18617/liinc.v14i2.4474.

Oester, S., J. A. Cigliano, E. J. Hind-Ozan, and E. C. M. Parsons. 2017. Why conferences matter- An illustration from the International Marine Conservation Congress. Frontiers in Marine Science 4:257. https://doi.org/10.3389/fmars.2017.00257.

Olinto, G. 2011. A inclusão das mulheres nas carreiras de ciência e tecnologia no Brasil. Inclusão Social 5(1):68-77.

Ovseiko, P. V., T. Greenhalgh, P. Adam, J. Grant, S. Hinrichs-Krapels, and A. M. Buchan. 2016. A global call for action to include gender in research impact assessment. Health Research Policy and Systems 14(1):50. https://doi.org/10.1186/

s12961-016-0126-z.

R Core Team. 2023. R: A Language and Environment for Statistical Computing. R Foundation for Statistical Computing, Vienna, Austria. URL: R-project.org.

Resmini, R. 2016. The leaky pipeline: Gender inequality in STEM careers. Journal of Science Education and Technology 25(5):771-780. https://doi.org/10.1002/chem.201600292.

Reyes, M., F. Spirito, M. Lallement, P. Meli, and J. L. De Paepe. 2025. Gender gaps in Argentine science: the unfixable leaky pipeline. Academia Environmental Sciences and Sustainability 2(3). https://doi.org/10.20935/AcadEnvSci7863.

Rodrigues, L. L. G. da C., E. L. M. Nascimento, L. A. M. Márquez, and T. P. L. Aguilar. 2021. Do presente ao futuro: A mulher na ciência brasileira. Boletim de Conjuntura (BOCA) 7(21):36-52. https://doi.org/10.5281/zenodo.5204512.

Ross, M. B., B. M. Glennon, R. Murciano-Goroff, E. G. Berkes, B. A. Weinberg, and J. I. Lane. 2022. Women are credited less in science than men. Nature 608(7921):135-145. https://doi.org/10.1038/s41586-022-04966-w.

Salerno, P. E., M. Páez-Vacas, J. M. Guayasamin, and J. L. Stynoski. 2019. Male principal investigators (almost) don't publish with women in ecology and zoology. PLoS ONE 14(6):e0218598. https://doi.org/10.1371/journal.pone.0218598.

Sociedade de Ecologia do Brasil. 2000. Anais do primeiro Congresso de Ecologia do Brasil [Material de conferência]. URL: tinyurl.com/48hthd45.

Sociedade de Ecologia do Brasil. 2009. Anais do IX Congresso de Ecologia do Brasil [Material de conferência]. URL: tinyurl.com/vfkcpsuh. Sociedade de Ecologia do Brasil. 2019. Anais do XIV Congresso de Ecologia do Brasil [Material de conferência].URL: tinyurl.com/46fft6ar.

Stariolo, M. B. 2017. Exploradoras do universo – contos biográficos de mulheres brasileiras na ciência para crianças. Viçosa, MG: Curso de Comunicação Social/Jornalismo da UFV.

Zandonà, E. 2022. Female ecologists are falling from the academic ladder: A call for action. Perspectives in Ecology and Conservation 20(3):294-299. https://doi.org/10.1016/j.pecon.2022.04.001.