Time to publish responsibly: DAFNEE, a database of academia-friendly journals in ecology and evolutionary biology.

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Abstract

The current economics of scientific publishing reveal a profound imbalance: academia pays prices far exceeding the actual costs of publication. Rather than supporting research, much of this expenditure sustains the profits of a few dominant commercial publishers. Transitioning to responsible publishing is a collective challenge that requires raising awareness among scientists about the problem and the solutions available. We present DAFNEE, a database of academia-friendly journals in ecology, evolutionary biology and archaeology (https://dafnee.isem-evolution.fr/). DAFNEE includes information on over 600 journals (co)run by academic or non-profit institutions, aiming at helping to keep publishing funds within the academic community. The database details these journal's business models, article processing charges, citation rates and partnerships. We show that DAFNEE journals compare favourably to non-DAFNEE ones in terms of editorial and financial policy, while offering similar citation rates. Finally, we offer several recommendations aimed at encouraging authors, reviewers, and evaluators to adopt more responsible publishing practices.

Keywords

Scientific publishing; Responsible publishing; Article processing charges; Diamond Open Access

Introduction

Communicating research findings and having them evaluated by peers is a major component of scientific activity. However, the scientific publishing sector is in crisis, with a deteriorating relationship between commercial publishers and the academic community, deviant practices linked to bibliometrics, an inflation in article number and cost, and a lack of transparency, openness, and reproducibility (Walter and Mullins 2019, Racimo et al. 2022, Hanson et al. 2024). The credibility of the scientific community has been tarnished, particularly in the life sciences (Flanagin et al. 2023). A hierarchy of esteem has been established, transforming the communication of science into a race to the bottom, where quantitative metrics take precedence over the quality of research. This generates numerous frustrations, especially among early-career scientists (Receveur et al. 2024) and hinders the advancement of knowledge, as the perceived interests of individuals conflict with the needs of science.

The economics of scientific publishing illustrate the crisis and are particularly upsetting, the average price charged to academia being much higher than the raw cost of publishing (Alizon 2018, Grossmann and Brembs 2021, Zarif 2023). Racimo et al. (2022) estimated that, if these costs were avoided, the savings could cover the salaries and research expenses of many thousands of scientists at the world scale. However, rather than benefiting the scientific community, most of this money is used by the few commercial publishers that dominate the market to employ salesmen and lawyers and keep the cash machine running, while making unrivalled profits (Aspesi et al. 2019). The hyperinflation in scientific publishing has been well documented for years, and was neither halted nor even slowed down by the transition to digital publishing (Houghton 2001, Khoo 2019, To and Yu 2020, Trueblood et al. 2025), despite clear evidence that excessive costs hinder scientific progress and deepen the gap between scientists from different parts of the world (Druelinger & Ma 2023, An et al. 2024). The causes of this anomaly are well understood, one of them being the position of strength of the major publishers in negotiations with universities, and another being the pressure applied to scientists for publishing. A third, maybe less often considered, reason for the crisis is the complexity of the system, and the difficulty for scientists to navigate it (Logan 2017).

Indeed, many aspects of the economics of scientific publishing lack transparency. The actual cost of publishing, for instance, is hard for scientists to grasp. The major part of it corresponds to subscriptions paid by university libraries, under the traditional reader-pays model. The amounts

involved are rarely publicised, and many scientists do not feel directly concerned by these expenses – even though most of this money could instead be injected into research if prices were closer to the true publishing cost. What scientists get to know about are Article Processing Charges (APCs), the publication fees paid by the authors of an article for publishing it in Open Access (OA): usually, these are charged to scientists' research budgets. However, APCs are now increasingly pre-paid by research institutions via so-called "transformative agreements", once again bypassing scientists' scrutiny while still placing a significant burden on academic budgets. Another aspect of scientific publishing where opacity prevails is the fate of the displaced money. Grossmann and Brembs (2021) estimated that the largest fraction of commercial publishers' revenues covers branding, lobbying, and legal activities, with the second largest portion going to profits – a depressing picture, and an unsustainable situation.

It is important to note that these figures, while highly relevant, are global trends that do not reflect the diversity of the scientific publishing landscape (Butler & Boisgontier 2025). Publisher and journal business models and pricing structures actually vary widely. While some charge very substantial fees (e.g., $12,690 per article in Nature Ecology & Evolution) with no return for academia, other journals are tightly associated with the scientific community (e.g., learned societies) and reinvest a substantial fraction of their revenue for the benefit of science. Many journals, finally, are non-profit and aim at minimising the cost of publishing, often relying on volunteer editorial work from scientists (Bosman et al. 2021).

Overall, the feeling is that many scientists just do their best navigating a complex and rapidly evolving system, which they struggle to fully understand, and which they often consider beyond their control. Perhaps more concerningly, those who want to adopt more responsible publishing practices frequently lack the necessary guidance or information to do so. The DAFNEE project was developed specifically to address this need. DAFNEE – which stands for Database of Academia-Friendly journals in Ecology and Evolution – aims to inform scientists about the business models of eco-evo-archaeo journals, and to encourage engagement with journals that partner with academic organisations.

The database

The Database of Academia-Friendly JourNals in Ecology and Evolution (DAFNEE, https://dafnee.isem-evolution.fr/) is maintained by staff from "Institut des Sciences de l'Evolution" (ISEM, Montpellier, France) and "De la Préhistoire à l'Actuel : Culture, Environnement et

Anthropologie" (PACEA, Bordeaux, France), two university-affiliated research institutes from Centre National de la Recherche Scientifique (France). DAFNEE aims to raise awareness of the dysfunctional scientific publishing market and to offer solutions for scientists committed to take collective action against these issues. When an article is published in a DAFNEE journal, a part of the displaced money is reinvested into academia. DAFNEE aims at encouraging scientists to prioritise such journals as authors, reviewers, and editors (Logan 2017).

DAFNEE was created in 2021 based on publication lists from seven French research institutes gathering a total of over 1,000 eco-evo-archaeo scientists. New candidate journals are continuously considered for inclusion based on spontaneous suggestions from librarians, scientists, or editors via the isem-dafnee@umontpellier.fr email address. Newly-considered journals are first assessed against our primary inclusion criterion: the existence of a visible partnership with an academic institution or a non-profit organisation. These are referred to as academia-friendly journals (Racimo et al. 2022). Information on whether journals meet this criterion is available from the "Surveyed journals" tab on the DAFNEE website. As far as academia-friendly journals are concerned, five additional criteria are applied: thematic relevance (journals must publish articles withing the broad field of ecology, evolution or archaeology), an up-to-date website, the presence of an editorial committee and peer review process, and an international scope, meaning the journal regularly publishes articles authored by scientists from multiple countries. Journals meeting all these criteria are listed under the "Browse DAFNEE" tab. It is important to note that while many DAFNEE journals are owned by academic institutions, some are published by professional, for-profit publishers. Additionally, DAFNEE imposes no language restriction, and currently includes journals publishing articles in nine different languages.

Journals listed in DAFNEE are accompanied by a set of descriptors:
- journal title and website;
- one of twelve thematic fields within the eco-evo-archaeo domain;
- journal publisher and publisher type, categorised as non-profit, for-profit or University Press;
- journal academic partner and partner type, classified into learned societies, universities/governmental institutions, museums, or non-profit organisations;
- journal business model, defined as Open Access (OA) (author pays), subscription-based (reader pays), hybrid (either/both pay), or diamond OA (neither author nor reader pays);
- journal APCs, which is the cost of OA publishing;

- SCImago Journal Ranking citation index (SJR), which measures the journal's average article citation rate while accounting for self-citation and low-range citation networks (Guerrero-Bote and Moya-Anegon 2012);
- existence and nature of a partnership with Peer Community In (https://peercommunityin.org/), a diamond-OA scientific publishing platform promoting and implementing responsible publishing practices.

The database can easily be queried using any combination of these descriptors, and the data can be extracted in .csv, .xlsx, and .pdf format. Most of the information available from DAFNEE is manually extracted from journal websites by a team of curators (authoring the current manuscript), on an annual basis. The SJR index is automatically collected from the SCImago project website (https://www.scimagojr.com/). Journal APCs are downloaded from the Directory of Open Access Journals (https://doaj.org/) website, although not all DAFNEE-listed journals are covered. Any missing data are manually collected by the curators.

The DAFNEE format is easily portable to other scientific fields. The website relies on open-source Shiny code available from https://gitlab.mbb.cnrs.fr/mbb/dafnee. This should be readily run and installed on a personal or professional server. The database requires two files: a csv file containing the annotations of academia-friendly journals, and a list of all the journals surveyed by annotators – including the non-academia-friendly ones. Optional files include a list of journal name synonyms, and a list of scientist names from the field, in order to create the distribution visible on tab "Author usage Index" (see below). We are happy to assist anybody interested in creating and sharing their own database of academia-friendly journals.

DAFNEE index

We define the DAFNEE index, *D*, as the proportion of academia-friendly journals in a journal list. More precisely we have:

$$D = N_{AF} / N_{surveyed}$$

where N_{AF} is the number of academia-friendly journals in the considered list and $N_{surveyed}$ is the number of journals from the list that was examined by DAFNEE curators, and annotated as academia-friendly or not. This index can be easily extended to a list of articles, by first compiling the journals in which the selected articles were published, then applying the above formula.

The DAFNEE website offers scientists the opportunity to quickly calculate their personal usage index based on first and last name, and compare to a sample of peers. DAFNEE retrieves a list of articles associated with the scientist's name from the OpenAlex database extracts the corresponding journals, and calculates the index. The reported index is then graphically positioned within the distribution of the DAFNEE index across ~350 eco-evo scientists from nine universities across four continents (Racimo et al. 2022). The average index for these scientists is close to 0.5, meaning that roughly half of the eco-evo scientific production is currently published in entirely for-profit journals, and half in journals associated with an academic or non-profit institution. There is, therefore, plenty of room for improvement here. Interestingly, Racimo et al. (2022) reported that the DAFNEE-index is not correlated with scientists' career stage or citation rate (their Box 2), demonstrating that successful careers can be achieved while publishing mostly in DAFNEE journals.

Database content

The June 2025 version of DAFNEE contains 611 academia-friendly journals. Table 1 provides an overview of the academic partnership (columns) and business models (rows) of these journals. Around two-thirds (64%) of DAFNEE journals are society journals, which highlights the key role played by learned societies in current academic publishing. Of these, 55% adopt a hybrid model, where authors can either rely on the traditional subscription-based system or opt for OA – in which case they have to pay APCs. Another 23% of society journals are full OA, while only 11% follow the diamond OA model, which does not generate any revenue. This illustrates how much societies are financially dependent on the journals they run – especially those organising in-person international conferences on a regular basis.

About one third (36%) of DAFNEE journals are not run by learned societies, but rather by universities, research institutes, museums, or non-profit organisations. Interestingly, the most popular business model for these journals is the diamond OA model, whereby publishing costs are covered by the academic partner itself. Governmental institutions typically receive public money, allowing them to support or run journals that are free for scientists to access and publish in. Accordingly, DAFNEE journals run by governmental/non-profit organisations mostly partner with non-profit publishers (69%; University Presses: 9%; for-profit: 22%). In contrast, DAFNEE journals run by learned societies resort a lot more to for-profit publishers (52%; University Presses: 15%; non-profit: 33%).

	Society	Uni/Gov	Museum	other	**total**	mean SJR	mean APCs
subscription	45	8	6	13	**72**	*1.2*	*NA*
hybrid	216	27	2	18	**263**	*1.1*	*2720*
OA	88	19	4	14	**125**	*1.2*	*1480*
diamond OA	42	58	25	26	**151**	*0.76*	*0*
total	**391**	**112**	**37**	**71**	**611**	*1.08*	*1620*
mean SJR	*1.0*	*0.96*	*0.53*	*1.8*	*1.08*		
mean APCs	*2010*	*770*	*240*	*1500*	*1620*		

Table 1. Distribution of the number of DAFNEE journals across institution type (columns) and business model (rows) categories. SJR: SCImago Journal Ranking, a citation index accounting for self-citing; APCs: Article Processing Charges, i.e., Open Access publishing fees.

The average citation rates of subscription-based, hybrid and OA DAFNEE journals are similar (mean SJR around 1.1), and higher than those of diamond OA journals (0.76). This might reflect the fact that many diamond OA journals have a rather specialised scope – such as, for example, those focused on a particular taxonomic group or geographic region. Although all DAFNEE journals are open to submissions from any scientist, it is understandable that diamond OA journals supported by a particular research institution tend to mainly attract a local authorship and readership – a single funder can hardly cover a wide audience or a large number of articles. A notable exception is the Peer Community In and associated Peer Community Journal (https://peercommunityjournal.org). This ambitious, generalist, diamond OA initiative seeks funding from a wide array of public sources, and is therefore able to offer free publishing solutions across the entire eco-evo-archaeo field and beyond.

The average APCs for DAFNEE journals is 1620 euros. This figure is obviously influenced by the 151 diamond OA journals included in DAFNEE, which charge no APCs. Excluding them increases the average APCs to 2310 euros. Remarkably, the mean APCs of hybrid journals (2720 euros) is considerably higher than that of fully OA journals (1480 euros). A large difference (2700 vs. 1560 euros) persists when we restrict the comparison to society journals. Substantially higher APCs in

hybrid than OA journals have been reported before (e.g. Solomon and Bjork 2014, Pinfield et al. 2015) and interpreted as signs of an immature market or an opportunity for hyper-profits by installed publishers (Budzinski et al. 2020). It has also been noted that hybrid journals, compared to full-OA journals, face additional costs incurred by paywalls (Grossmann and Brembs 2021), which perhaps implies charging more. Whatever the reasons, the difference in APCs between hybrid and OA journals does not reflect any obvious commercial logic, and justifies recent recommendations to avoid paying for OA publishing in hybrid journals (Supplementary Text 1).

DAFNEE includes a substantial proportion (41%) of journals published by a for-profit publisher. Most of them (80%) are run by learned societies, which use their share of revenue to finance actions and services for their community - such as scientific meetings, travel grants for young scientists, and initiatives favouring equity and diversity in science. This benefit to academia justifies the inclusion of these journals in DAFNEE. Still, it should be noted that the deals between societies and publishers are usually confidential, even to society members, which is hardly acceptable. We encourage eco-evo-archaeo learned societies to consider switching to a non-for-profit publisher, thus avoiding an unnecessary waste of public money. The recent transitions of society journals Evolution Letters, Evolution and Journal of Evolutionary Biology from a for-profit publisher to a University Press are exemplary moves worth following. Although the status of University Presses (14% of DAFNEE journals) is not entirely clear, their close association with universities suggests that their revenue is reinvested for the benefit of science. 45% of DAFNEE journals, finally, are published by a non-profit publisher. This is a heterogeneous category of journals: some non-profit publishers, such as the Public Library of Science and the American Association for the Advancement of Science, are highly visible and active entities, which charge considerable APCs. Others rather aim at minimising publishing costs and adopt the diamond Open Access model. These correspond to 52% of the non-profit journals in DAFNEE.

Comparison of DAFNEE and non-DAFNEE journals

We compared various metrics between DAFNEE and non-DAFNEE journals, using journal-level data compiled by Hanson et al. (2024) as well as our own data (see Material and Methods). In total, seven variables were analysed: SCImago Impact Factor (IF), Scopus's SCImago Journal Rank (SJR), the IF/SJR ratio - an indicator of impact inflation proposed by Hanson et al. (2024), the average annual article output, the proportion of articles published in special issues, mean turnaround time, and Article Processing Charges (APCs). The data set analysed here included 611 DAFNEE journals and 404 non-DAFNEE journals.

Academia-friendly journals show limited impact inflation

Figure 1A indicates that DAFNEE journals exhibit slightly but significantly lower Impact Factors, on average, than non-DAFNEE journals. If one instead considers SJR, a citation index correcting for self/low-range citation (Figure 1B), the difference is less pronounced. Consequently, the IF/SJR ratio is substantially lower in DAFNEE than in non-DAFNEE journals (mean±SE of 2.74±0.04 for DAFNEE journals and 3.29±0.06 for non-DAFNEE ones, Wilcoxon rank sum test: $p = 3.37 \times 10^{-14}$) (Figure 1C). Although arithmetic means for non-DAFNEE journals are inflated by a few journals with exceptionally high IF, SJR or IF/SJR ratios, analyses using trimmed means (Yuen robust tests, 20% trimming, Figure 1) confirmed that the significant differences between DAFNEE and non-DAFNEE journals for journal influence and impact inflation are not driven by outliers.

At first sight, the lower IF values may suggest a reduced level of scientific influence of DAFNEE journals compared to non-DAFNEE journals, although the difference is unlikely to entail any professional risk. Interestingly, the SJR analysis provides another perspective on this result, in line with Hanson et al. (2024). The lower IF/SJR ratio in DAFNEE journals suggests that DAFNEE journals may engage less in self-citation or citation-boosting editorial practices, which can artificially inflate Impact Factor. They may follow stricter ethical standards or editorial policies that prioritise genuine scholarly influence over metric manipulation. In contrast, the higher impact inflation in non-DAFNEE journals could reflect a tendency to emphasise citation-based performance, possibly at the expense of transparency, or a permissive self-citation strategy, which may serve to enhance journal visibility or prestige but does not necessarily reflect higher scientific quality or influence. This is critical and confirms previous analyses showing that favouring society/non-profit journals over purely commercial journals has, at least in the field of ecology and evolutionary biology, no negative impact on the citation rate of faculty members (Racimo et al. 2022).

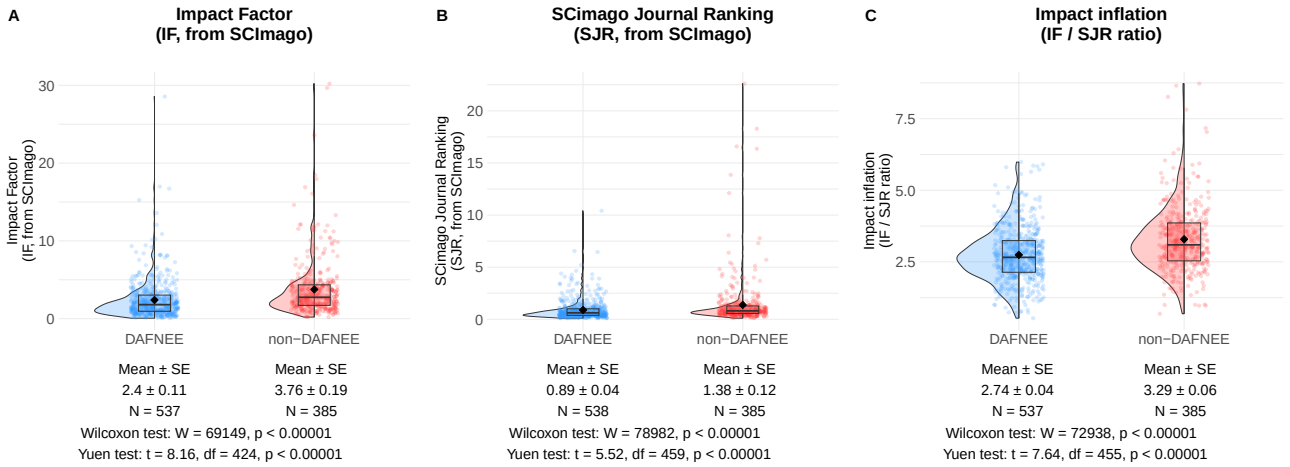

Figure 1: **Comparison of metrics of scientific influence and impact inflation between DAFNEE and non-DAFNEE journals**. Panels show: (A) Impact Factor (IF), calculated by SCImago, (B) SCImago Journal Rank (SJR), calculated by SCImago, and (C) Impact inflation (defined as the ratio IF/SJR), for DAFNEE (blue) and non-DAFNEE (red) journals. Each panel combines individual data points representing journals (jittered), a violin plot (distribution density), a boxplot (median = central line; box = interquartile range; whiskers = 1.5 × IQR), and a black diamond indicating the group mean. Below each panel, sample sizes (N), means ± SE, and results of Wilcoxon and Yuen's robust tests are reported.

Academia-friendly journals avoid excessive publication volumes and rates

We found that non-DAFNEE journals publish on average significantly more articles per year, and a higher proportion of articles in special issues than DAFNEE journals (Figure 2, A-B). Notably, all journals for which the proportion of articles published in special issues is extremely high are non-DAFNEE; the same holds for the majority of journals for which the mean total number of articles published yearly is extremely high. Nevertheless, significant differences hold when trimming for outlier values (Yuen robust tests, Figure 2). DAFNEE journals also have slightly longer turnaround times in processing an article than non-DAFNEE journals (Figure 2, C).

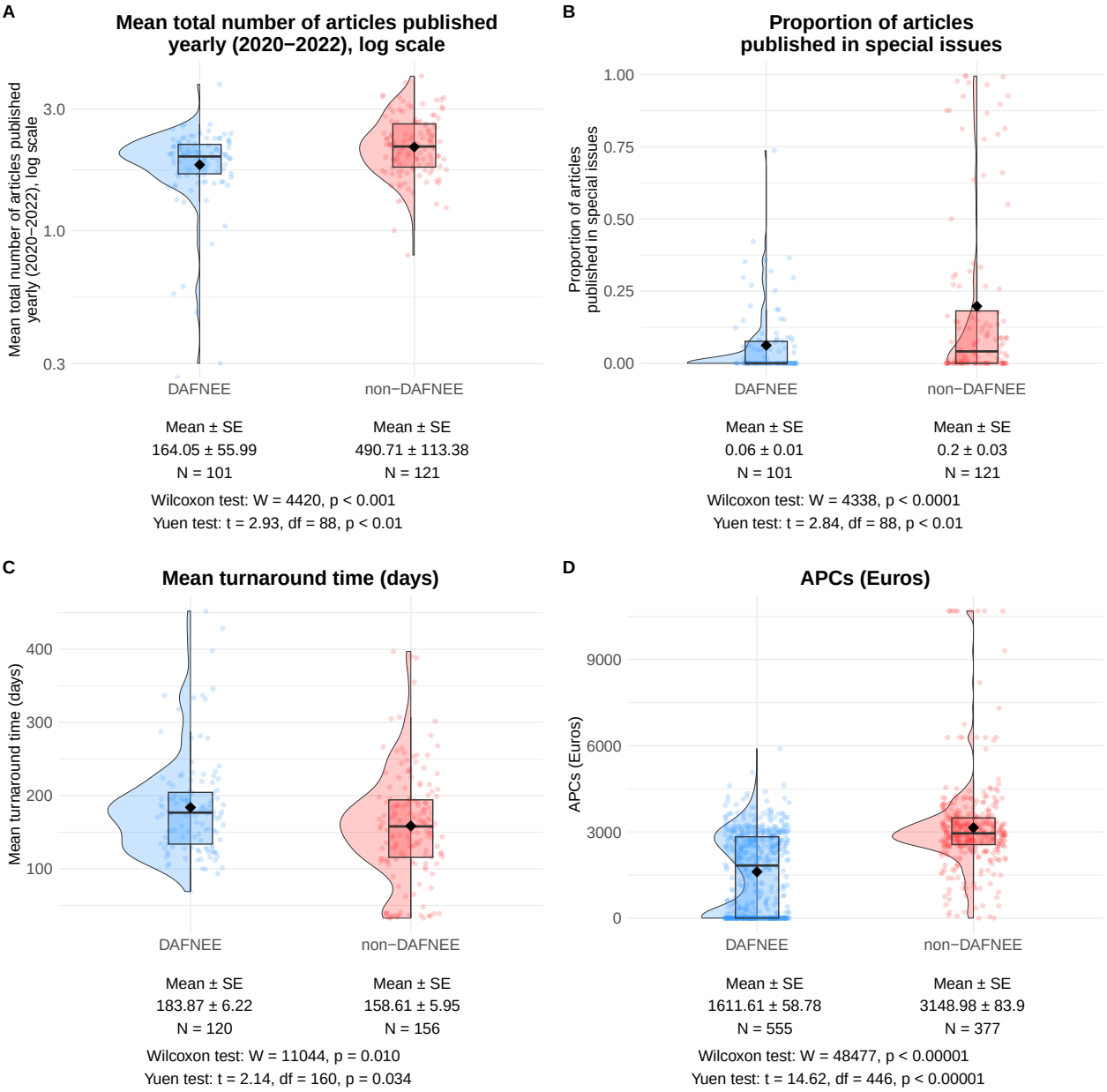

Figure 2: Comparison of publishing characteristics between DAFNEE and non-DAFNEE journals. Panels show: (A) mean total number of articles published yearly between 2020 and 2022, represented on a log scale), (B) proportion of articles published in special issues among all published articles between 2020 and 2022, (C) mean turnaround time (in days), and (D) article processing charges (APCs) (in Euros), for DAFNEE (blue) and non-DAFNEE (red) journals. Each panel combines individual data points representing journals (jittered), a violin plot (distribution density), a boxplot (median = central line; box = interquartile range; whiskers = 1.5 × IQR), and a black diamond indicating the group mean. Below each panel, sample sizes (N), means ± SE, and results of Wilcoxon and Yuen's robust tests are reported.

The lower number of articles and smaller proportion of special issues may indicate reduced commercial pressure to maximise output, as well as a lesser reliance on special issues, which have been criticised for allowing editorial shortcuts or boosting citation rates (Hanson et al. 2024). The slightly longer, although reasonable, turnaround time of DAFNEE journals may reflect less efficiency in processing articles, but could also reflect thorough peer review and editorial oversight, in contrast to rapid publication models aimed at increasing output and citation speed. Notably, a fast turnaround is not a general characteristic of non-DAFNEE journals, but is observed in a subset of them (Figure 2-C,), which drives down the average turnaround time within that group. All 17 journals with a mean turnaround time shorter than 40 days are non-DAFNEE and published by MDPI.

Academia-friendly journals charge lower publication fees

We found that APCs are much lower, on average, in DAFNEE journals than in non-DAFNEE journals (Figure 2-D), and the difference remains highly significant when trimming extreme values from the distributions (Yuen robust test, Figure 2-D). This indicates a more equitable and accessible publishing model, reducing financial barriers for authors. Given the heterogeneity of the two categories of journals, we conducted additional analysis of the APC distribution controlling for citation factor and publisher. Focusing on four major publishers for which at least 20 DAFNEE and 20 non-DAFNEE journals were available, we found that APCs correlate positively with SJR for the two categories, but this correlation is stronger for non-DAFNEE compared to DAFNEE journals (Figure 3). Moreover, APCs are consistently higher in non-DAFNEE than in DAFNEE-journals, regardless of the scientific influence of the journals (SJR) and the publisher being considered (Figure 3).

Figure 3 reveals critical differences in how journal prestige translates into costs for authors and academic institutions. For non-DAFNEE journals, APCs consistently and strongly increase with SJR, suggesting that more prestigious journals charge more, potentially pricing out less-funded researchers. This may reflect a commercial approach where influence is monetised aggressively. For DAFNEE journals, APCs are lower and often more stable across SJR values, suggesting that scientific prestige is less strongly exploited for financial gain. Remarkably, despite their lower APCs, DAFNEE journals still redistribute part of their revenues to the academic community—unlike non-DAFNEE journals, which charge more without such redistribution. These differences were consistent across all four major publishers analysed. This consistency supports the view that

academic or non-profit involvement in publishing promotes transparency and fairness in pricing. The contrast is especially stark when comparing DAFNEE journals with non-DAFNEE journals from Elsevier, where APCs rise sharply with journal prestige for non-DAFNEE journals. This may reflect varying strategic orientations among publishers - for instance, Elsevier has a high proportion of non-DAFNEE journals (74.6%), whereas Wiley's is much lower (31.3%).

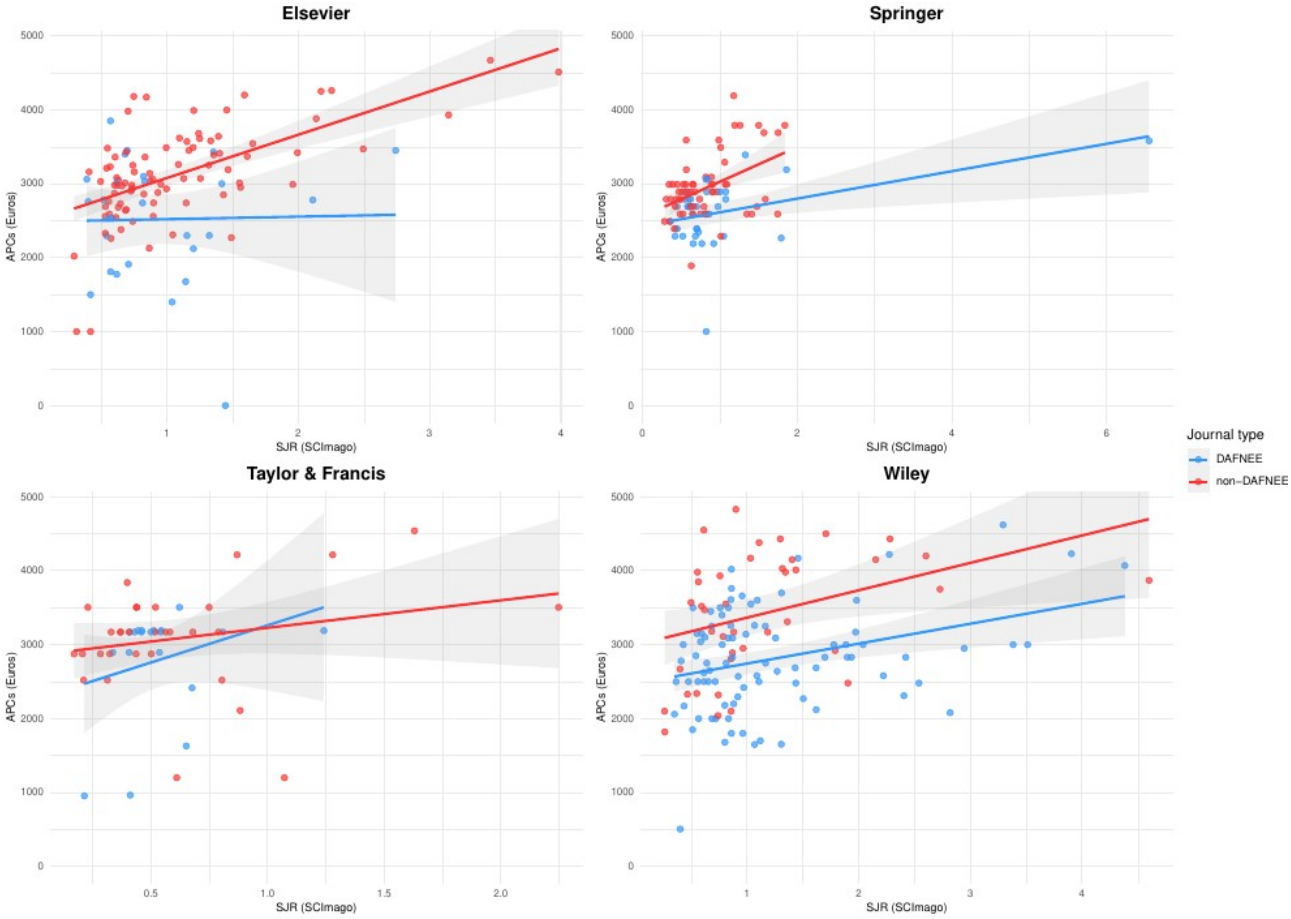

Figure 3: Article Processing Charges (APCs) in DAFNEE and non-DAFNEE journals as a function of SCImago Journal Rank (SJR) and publisher. Scatter plots between APCs (in euros) and SJR journal citation metric, for the four publishers with >20 DAFNEE and >20 non-DAFNEE journals (Elsevier, Springer, Taylor & Francis, and Wiley). Scatter plots show individual journals (DAFNEE in blue, non-DAFNEE in red), with linear regression lines (coloured) and 95% confidence intervals (grey shaded areas).

When classifying publishers (having at least five journals) according to the proportion of DAFNEE journals they publish (<10% or >90%, Supplementary Figure 1), we found that publishers with <10% DAFNEE journals (Figure 4, in red) tend to charge higher APCs overall, with a strong positive correlation between APCs and SJR, particularly driven by Cell Press. In contrast, most publishers with >90% DAFNEE journals (Figure 4, in blue) show markedly lower APCs, including several without publication fees. One exception is Routledge, whose APCs are similar to those of low-DAFNEE-prevalence publishers. We note that Routledge, although still associated with many academic partners, has been part of the for-profit Taylor & Francis publishing group since 1998. Overall, Figure 4 provides additional indication that publishers with a stronger DAFNEE presence may prioritise affordability and accessibility over commercial metrics.

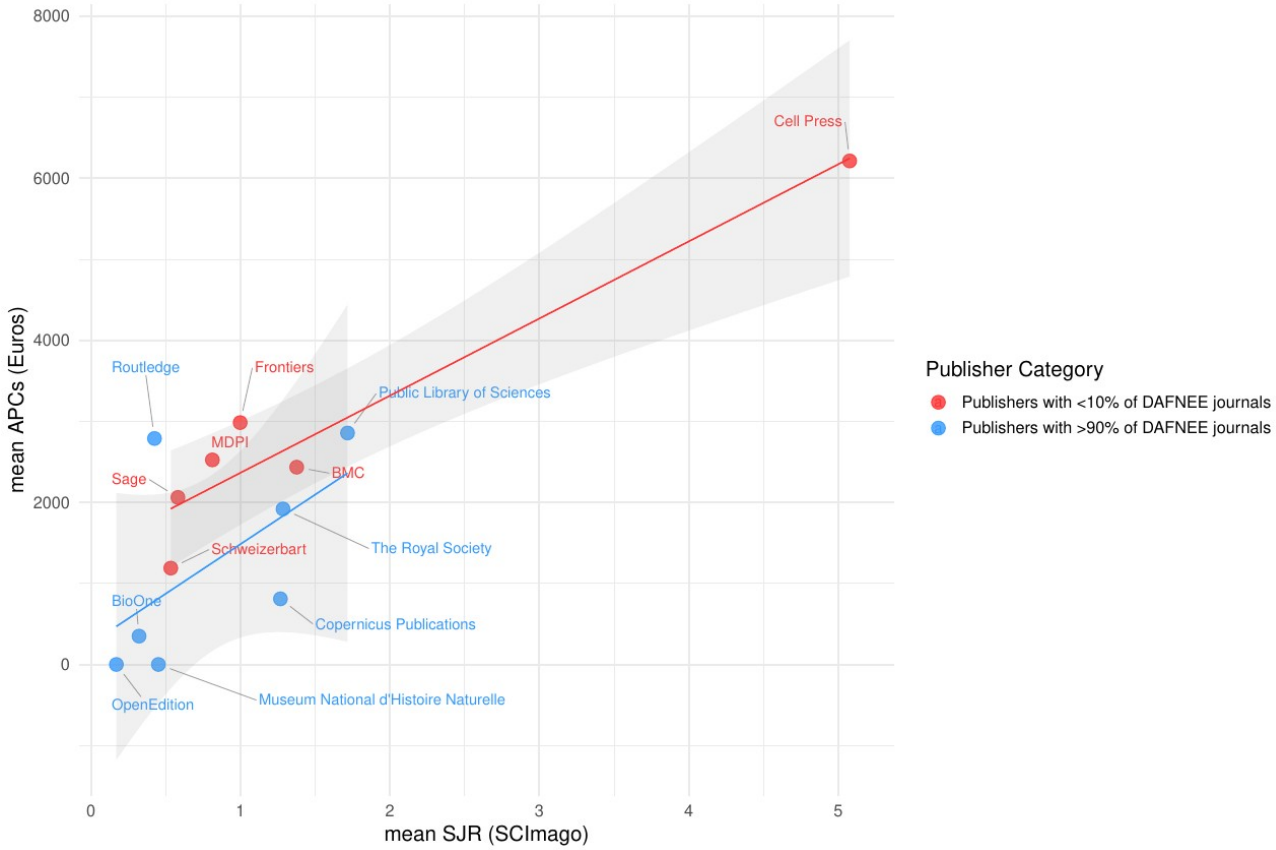

Figure 4. Article Processing Charges (APCs) as a function of SCImago Journal Rank (SJR) for publishers classified according to their proportion of DAFNEE journals. Scatter plots between APCs (in euros) and SJR journal citation metric, for publishers with >5 journals and less than 50% of SJR missing values (name or acronym of each publisher is specified on the figure). Scatter plots show individual publishers with fewer than 10% DAFNEE journals (in red) and with more than 90% DAFNEE journals (in blue), with linear regression lines (coloured) and 95% confidence intervals (grey shaded areas).

Together, our results support the view that DAFNEE journals, on average, align more closely with responsible publishing practices, favouring financial accessibility while avoiding high-volume, profit-driven strategies that may compromise quality.

Discussion

Why DAFNEE?

DAFNEE was designed to support eco-evo-archaeo scientists in moving towards more responsible publishing practices by helping them decide which journal to publish in, review for, or engage with as editors. Prioritising academia-friendly journals offers several benefits to the academic community. First, it directly saves research funds by ensuring that a portion of the publication fees is reinvested into the journal's academic partner. Secondly, it strengthens the position of academic institutions in negotiations with publishers about publishing fees. Our demonstration of lower APCs in DAFNEE journals (Figure 3) suggests that academic institutions put some pressure on private publishers to reduce publication fees. Let’s support them further in this effort. Among academia-friendly journals, diamond-OA journals are particularly healthy in minimising the cost of publishing while offering access to science for all. Publishing in such journals should be identified as a commendable behaviour. For instance, the Peer Community In and associated Peer Community Journal are diamond-OA initiatives offering the desired features of scientific publishing media (open access/data/code, transparent evaluation, long-term archiving, conflict-of-interest management) with no charge for authors or readers – a proof of concept that we can achieve efficient, high quality scientific publishing without resorting to commercial publishers (Trueblood et al. 2025).

The DAFNEE initiative promotes equity and inclusion by addressing how financial structures influence who can produce and access knowledge (Mayer 2024). Traditional subscription-based models restrict access to well-funded institutions, while open access models that rely on article processing charges (APCs) shift costs onto authors. This often disadvantages early-career researchers, scholars from underfunded institutions, and those in the Global South (Druelinger and Ma 2023). These financial barriers reduce diversity and perpetuate inequalities within academia. Our analysis suggests that profit-driven publishing models tend to favor high-volume output, sometimes compromising inclusivity and ethical standards. Conversely, more inclusive approaches

– as those listed into DAFNEE, including diamond open access, institutional subsidies, and publicly funded initiatives – reduce economic barriers and promote wider participation.

DAFNEE targets the eco-evo-archaeo field, which seems a relevant community to mobilise. These scientists often call for collective action for the preservation of nature, biodiversity, and our environment. This typically implies asking individual citizens to change their lifestyle for the good of all. How could these grand goals be attained if we scientists cannot solve the (arguably much smaller) problem of the excessive cost of scientific publishing?

Using DAFNEE

Below are recommendations we offer to scientists wishing to move towards more responsible publishing:

[1] As an author: include business model as a criterion of selection of a journal; favour DAFNEE-indexed journals whenever possible; refuse to pay excessive publication charges; avoid publishers prioritising profit over transparency and quality.

[2] As a reviewer/editor: Avoid engaging with journals having unsustainable business models; explain your reasons for declining to editors-in-chief, editors, authors, your employer, your colleagues.

[3] As an evaluator: read a sample of applicants' papers and assess quality; favour article-based metrics over journal-based metrics; do not mention journal names in panel discussions or reports; reward scientists who publish responsibly.

[4] As an applicant: include in your CV a section on publication policy explaining your choices of journals; summarise the content of your key papers and contributions.

[5] As a regular scientist: communicate about responsible publishing with your peers, co-authors, advisors, trainees, employer.

Recommendation [2] (do not review for unethical journals) appears very easy to implement, and actually is a win-win – by adopting it one saves time for their own research while supporting a healthier publishing system. Recommendation [1] (publish in academia-friendly journals) is often seen as generating a direct cost for scientists, especially early in their career (Receveur et al. 2024). We believe this cost tends to be overestimated. Academia-friendly journals are numerous – above 600 in DAFNEE at the time being. Our and other analyses (Racimo et al. 2022, Hanson et al. 2024) concur that they compare with fully private journals in terms of scientific impact, and outperform them on several ethical criteria, while being considerably cheaper. There is a growing concern

regarding publication ethics, and it is likely that committees will become more and more sensitive to this topic in the forthcoming years – hence recommendations [3] and [4].

Recommendation [5], finally, is relevant to the collective action problem we need to solve. Commercial publishers are imaginative in harnessing our resources (https://hal.science/hal-05113253). We should not remain passive. Informing and embarking as many scientists as possible, both senior (Kowalczyk et al. 2022) and early-career (Receveur et al. 2024), is a way to accelerate the change. The rising adhesion to the DORA principles (Bladek 2014, Gärtner et al. 2024), the recent creation of the SORTEE learned society (https://www.sortee.org/), the TOP guidelines (https://www.cos.io/initiatives/top-guidelines), and the PEEER network (https://peeer.net/) are excellent implementations of this move (and see Supplementary Text 1). It was recently suggested to preferably cite articles from non-profit journals when multiple references would be equally valid (Beck et al. 2025). One additional suggestion could be to include in every paper published in an academia-friendly journal a sentence mentioning that journal choice was made on purpose, possibly citing the relevant literature and resources, such as, for example, Racimo et al. (2022), Receveur et al. (2024), Hanson et al. (2024), this paper, the DAFNEE, PEEER, and/or Peer Community In websites. Examples of such sentences are proposed below:

"This article was submitted to a society journal because the authors support responsible publishing (https://dafnee.isem-evolution.fr)."
"This article is published in a diamond Open Access journal in order to save public research money."
"The authors of this paper have agreed to publish it in [journal name] in support of [academic partner name], who will receive a share of the publication fees."

Conclusion

That one of today's most profitable industries is built on a product, the scientific article, that is designed, validated, and often formatted for free by its own customers, has an ironic side. That the said customers represent the most highly-educated segment of the society and are massively funded by public money, is instead distressing. We academics are collectively complicit in, and victims of, this anomaly. The excessive cost of scientific publishing disproportionnally harms low-income institutions and countries. It is up to us, scientists, to solve the problem, and to do that, we need to reappropriate scientific publishing. A first step is to overcome the opacity maintained by the non-

scientific players of the system – hence DAFNEE. The next step is to take concrete action and change our practices. What is stopping us?

Material and Methods

To compare publication-related metrics between DAFNEE and non-DAFNEE journals, we analysed 1015 eco-evo-archaeo journals, of which 611 are DAFNEE-indexed journals and 404 are not. This is a subset of the 1178 eco-evo-archaeo journals that have been considered for possible inclusion in DAFNEE ("Surveyed journals" tab), which also include journals that do not belong to the eco-evo-archaeo field. We primarily used journal-level data compiled by Hanson et al. (2024), focusing on journals from our annotated list. This dataset provided values for the average annual article output, the proportion of articles published in special issues, and mean turnaround time, based on data from 2020-2022 (see details in Hanson et al 2024). We collected 2024 SCImago's Impact Factor (IF), corresponding to the 'Cites per Document (2 Years)' metric and SCImago's Journal Rank (SJR) citation metric from SCImago website. Where 2024 metrics were not available, we used the most recent estimates from previous years. For journal with both IF and SJR information, we calculated the IF/SJR ratio, an impact inflation metric proposed by Hanson et al. (2024). This ratio, when superior to one, highlights journals whose citation counts are inflated by self-citations, as IF includes most self- and circular citations, while SJR excludes them. Finally, we collected information on Article Processing Charges (APCs) for both DAFNEE and non-DAFNEE journals (hybrid, gold and diamond open access) based on journal websites (accessed between 03/2024 and 03/2025). Metric values for all annotated journals are provided in Supplementary Table 1. As variables within DAFNEE and non-DAFNEE groups showed non-normal distributions and variance heterogeneity (Shapiro-Wilk and Fligner-Killeen tests), we used Wilcoxon rank-sum tests to assess group differences. We also used Yuen robust tests (20% trimming) to assess group differences while accounting for potential outlier effects. Correlations between variables were tested using linear regression with the lm() function. All analyses and figures were produced in *RStudio* (v2025.05.1+513) with R v4.2.3.

Data and code availability

The content of the database and code of the website can be freely accessed here: https://gitlab.mbb.cnrs.fr/mbb/dafnee. The data file and source code used to generate the figures are available from https://zenodo.org/records/17356071.

Author contributions

NG initiated the DAFNEE project. KB developed the website and created the DAFNE usage index. All authors maintain the database and collected the data here analyzed. CMS, CS, KB, NG and POA conceived the study. CMS, CS, LP and NG analyzed the data. CM and KB provided numerical and analytical tools. CMS and NG drafted the manuscript. AQ, CB, CS, EH, FD, KB, POA, SJP and SK improved it.

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Conflict of Interest

The authors have conceived and maintain the DAFNEE database, which is here advertised. They do not receive any financial counterpart for this.

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