

1 **How to get published in *Palynology* (or any other journal)**

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8 **ABSTRACT**

9 There are many published items on guidance in scientific writing, and potential authors
10 should not try to read too many of these to prevent information overload. This article aims to
11 advise aspiring authors on producing scientific manuscripts for publication. It is particularly
12 aimed at early career researchers in palynology and related topics who wish to publish their
13 work in the peer-reviewed literature. It is vitally important that your manuscript makes a
14 good initial impression with the journal editors. This means strictly adhering to the house-
15 style (textual format) of the respective journal, and that your work is well-illustrated, well-
16 structured and well-written. Despite the apparent complexity of the scientific publishing
17 process, the system is primarily designed to allow several expert third parties to critically
18 scrutinise your work in order to ensure scientific excellence. During the production of the
19 first draft, authors are advised to anticipate issues that may be noted by peer reviewers.
20 Consider carefully where to submit your work to. Specifically key metrics such as the impact
21 factor, readership and scope of journals should be assessed. You will need to navigate an
22 online submission process hence it is critical to organise your files effectively before
23 submitting. It is possible, even likely, that you may be asked for more than one round of peer
24 review. Moreover, you may have to recast your work and submit it elsewhere if it is declined
25 by your first choice journal. Ethics in publishing are very important. For example you should

26 invite colleagues to be co-authors only if they have materially contributed to the particular
27 manuscript, and make strenuous efforts not to use the work of others unacknowledged.
28 Remember that many more people will read your title, abstract and keywords than the main
29 body of the paper so pay special attention to crafting these items optimally.

30

31 **KEYWORDS:** advice; checklist; guidance; journals; manuscript preparation; palynomorphs;
32 scientific publishing

33

34 **1. Introduction**

35 It is rightly said that a piece of scientific work is not finished until it is published. Moreover,
36 and arguably more importantly, ‘publish or perish’ is a well-known and much-used phrase in
37 the world of science (Raja and Dunne 2021). The pressure on technical professionals to
38 disseminate their work as formal scientific publications has never been greater. This is
39 arguably most important for early career researchers (ECRs) who need papers to obtain a
40 postdoctoral fellowship, or their first permanent job. Equally, an applicant to industry with a
41 PhD and published papers associated with it will normally have greater appeal to potential
42 employers than a candidate ‘merely’ with a PhD. In this relatively short, informal article,
43 which is primarily aimed at ECRs working on palynology and related areas, I will try to
44 encourage aspiring authors to put pen to paper. This piece is aimed at providing practical
45 advice to all authors on how to craft and present a manuscript with the emphasis on
46 palynology (and palaeontology generally) that will hopefully make it more appealing to
47 editors, readers and reviewers of this, or any other, scientific journal. This paper is absolutely
48 not meant to be a list of daunting conditions, demands and instructions. On the contrary, it is
49 a type of toolbox offered in the spirit of teamwork, whereby the authors, editors, publishers
50 and reviewers work together to get research papers produced efficiently and effectively. This

51 article should be used in conjunction with the extensive online resources provided by our
52 publishers, Taylor and Francis in the ‘author services’ part of their website at
53 <https://authorservices.taylorandfrancis.com/#>.

54 Every journal has “Instructions for Authors” and *Palynology* is no exception (see:
55 <https://www.tandfonline.com/action/authorSubmission?show=instructions&journalCode=tpal>
56 [20](#)). Some institutions also issue their staff with information on how to write a technical
57 scientific document (e.g. Jackson 2000). These instructions are great for the factual things
58 such as the preferred dots per inch (dpi) resolution and file formats for figures, but normally
59 do not proffer advice on aspects such as what might be termed crafting, nuancing or
60 wordsmithing. A generic point to bear in mind concerns a well-worn cliché on the
61 importance of first impressions. The first assessment your manuscript will get is a relatively
62 quick read through by the editor, before it goes out to peer reviewers (Figure 1). If your
63 manuscript is well-set out and well-written, you increase the chance of editors and reviewers
64 positively engaging with it. Even if the scientific content is great, readers will be immediately
65 turned off your manuscript if it is, for example, littered with poor phraseology and spelling
66 errors, the technical language is inconsistent, the formatting is suboptimal, there is repetition,
67 and/or the font styles and sizes change randomly. Section 8 below comprises 16 points of
68 guidance in the preparation of manuscripts on palynology which I hope are useful.

69

70 **2. The literature on guides to scientific publishing**

71 There is a veritable plethora of excellent guides for writing scientific papers (e.g. Day 1977,
72 Rosenfeldt et al. 2000, Hoogenboom and Manske 2012, Delvin et al. 2014, Gemayel 2016).
73 Many of these were written by life science or medical researchers but are generally applicable
74 to all scientific disciplines. There are also numerous textbooks on this topic (e.g. Schimel
75 2012, Gastel and Day 2016, Gustavii 2017, Glasman-Deal 2020). Deep time palynologists

76 will probably find Craig (1969) and Eriksson et al. (2005) particularly useful. Craig (1969) is
77 a particularly entertaining, perceptive and well-written article, and is very highly
78 recommended. By contrast, Moerman (2005), Haigh (2013) and Tress et al. (2014) may be
79 more apposite for workers on geography and modern pollen. There are also many short
80 courses on the publishing process, either in person or online, which are also available. The
81 present author's strong advice is not to read all of these publication guides; pick one or two,
82 read them well and simply dip into some of the others. The present work aims to give
83 targeted advice on how to craft an appealing manuscript with the main emphasis on
84 palynology.

85

86 **3. The evolution of a scientific paper**

87 As anyone who has successfully published their work in a journal will attest, this can be a
88 lengthy and somewhat convoluted process. Figure 1 is a flowchart of the entire process. At
89 first sight the entire procedure appears daunting but please rest assured, most scientific
90 manuscripts are published eventually. The first two steps, groundwork and conceptualisation,
91 are of course absolute prerequisites; one has to have something to write about! However,
92 assuming you have a substantial body of scientific data and interpretations (perhaps following
93 a PhD) it is necessary to decide how many papers to write and what their respective scopes
94 should be. This is not, in all cases, obvious and the conceptualisation of a paper is a specific
95 skill. A large whiteboard may prove very handy at this stage.

96 During the writing process, I advise you to be bold and let your creative juices flow
97 liberally. Avoid paranoia about future editorial scrutiny, which can of course be somewhat
98 debilitating, but try your best to anticipate issues that may be flagged up by reviewers and
99 other critical readers. Do not be afraid of asking yourself 'difficult' questions. For example is
100 your location map easily understood? Are your sample materials adequately documented?

101 Are your conclusions concise and well-expressed? When you finish writing the first draft,
102 take a well-deserved break and then go back to the manuscript specifically looking for
103 questions editors and peer reviewers may bring up. What would you say if you were asked to
104 peer review it? Do not fall into the trap of submitting your work too early, or with errors and
105 issues you know full well are there. The better a manuscript is upon submission, the less
106 likely that issues will be identified at peer review stage. In summary, you are aiming for a
107 document that needs as little as possible alteration by editors, reviewers and typesetters.
108 Remember the old adage ‘aim for perfection’, which was no doubt much-loved by your
109 college professors!

110 Most papers these days have two or more authors so, if you are the lead author, the
111 first thing to do is to circulate your first draft to your co-authors for comments. This is just
112 the first in a long line of edits you will do (Figure 1). Another good idea prior to formally
113 submitting the manuscript is to ask a trusted colleague in your department to critically read
114 your document. In addition, some authors may have to obtain corporate permission to publish
115 from employers, funders, sponsors etc. at this stage.

116 It is a good idea to carefully consider which journal to aim for well before you finish
117 the first draft. A good strategy here is to develop a shortlist. When you have a likely
118 contender, ask yourself whether your manuscript fits the scope of the journal. A perusal of
119 the website of the journal should tell you this. Remember that even generic biological or
120 geological journals sometimes have specific requirements whether geographical or otherwise.
121 Also check for key criteria such as word limits; some journals have very strict parameters on
122 manuscript size. Try to be realistic about the suitability of your manuscript in terms of which
123 journal you submit it to. A relatively routine, geographically focussed taxonomic manuscript
124 will probably be best suited to a specialist journal such as *Palynology*, as opposed to a very
125 high impact, high profile international generic science organ for example *Nature*.

126 Always consider the basket of metrics, and not simply the impact factor, of your
127 candidate journals. The Declaration on Research Assessment (DORA - <https://sfdora.org/>)
128 acknowledges the need to improve the ways in which research outputs are evaluated, so as
129 not be over reliant on a single metric. Taylor and Francis are a signatory of DORA. However,
130 it cannot be denied that the impact factor of a journal is highly influential. This important
131 metric is a measure of the frequency of citations, and hence provides a quantitative method of
132 assessing journals and their relative influence. Impact factors for selected journals are
133 reassessed annually by the Journal Citation Reports of the Web of Science Group. The impact
134 factor of a journal is the number of citations garnered in a given year of articles from the two
135 previous years, divided by the total number of citable items issued (i.e. not editorials, letters
136 etc.) during the preceding two years. Bear in mind however that impact factors, like many
137 other metrics, are not immune from criticism. It has been argued that they are blunt tools and
138 may not effectively evaluate the influence or quality of a journal (<https://sfdora.org/>).
139 Furthermore, due to their use by employers and research funders, they may generate strategic
140 manoeuvrings leading to what has been termed an ‘unhealthy research culture’ (Amin and
141 Mabe 2000, Else 2019).

142 Finally, avoid predatory Open Access journals (subsection 8.14). These are
143 unscrupulous online titles which are basically crass profiteering projects. Typically they
144 undertake mass-email spamming, and charge exorbitant prices for publication while
145 exhibiting a total lack of editorial and peer review oversight (Harvey and Weinstein 2017). A
146 common practise of predatory titles is to invite an author to submit a manuscript, then charge
147 them an article processing charge (APC). An invited paper for a reputable Open Access
148 journal should have all APCs waived. A good place to check is the Directory of Open Access
149 Journals (DOAJ - <https://doaj.org/>). If an Open Access journal is listed here, and is more than

150 one or two years old, it is unlikely to be predatory because the DOAJ has rigorous vetting
151 procedures.

152 The next step is to submit your manuscript. The overwhelming majority of journals
153 have online submission interfaces. These are generally very straightforward. You will upload
154 all the files, i.e. the main document, the display materials, any appendices and a cover letter,
155 one-by-one. It pays to be very well-prepared here; make sure you organise your various files
156 well, that they are all in the required formats and that image files are at the appropriate
157 resolution and scale. At the end of submission process, the online system will produce a
158 consolidated pdf file so ensure that your files are uploaded in the correct order. Should you
159 encounter problems at this stage, helpdesks are always available. Do bear in mind that, during
160 this process, relevant information will be requested such as funding sources, Orcid numbers,
161 the number of words in the main document etc. It may be useful to perform a test upload of a
162 dummy manuscript prior to the real thing so that you do not encounter any unexpected
163 surprises.

164 The editor will most probably send your work to two or more peer reviewers (section
165 7). In the case of *Palynology*, we normally ask two specialists to undertake reviews.
166 Sometimes, if the editor spots substantial issues with your manuscript, they will request
167 certain amendments before peer review. When the reviewers respond to the editor (hopefully
168 in around one to two months or so), you will get a decision email. In most cases you will be
169 asked to revise your manuscript and these can be, for instance, ‘minor’, ‘moderate’ or ‘major’
170 (Figure 1). Another option is to initially decline the manuscript but with an invitation to make
171 a brand new submission (‘reject and resubmit’). This option is normally used when the Editor
172 feels that the manuscript has potential, but still requires substantial work to be done. Ensure
173 that you address all the comments by the reviewers. You may rebut points you strongly feel
174 are inappropriate, but you will have to eloquently justify this on a case-by-case basis to the

175 editor. When you resubmit, ensure that you explain to the editor via a separate report or cover
176 letter precisely how you have revised the manuscript.

177 Hopefully at this stage the editor will accept your work, but do not be surprised if they
178 ask for more final revisions or even a further round of peer reviews. In the case of
179 *Palynology*, most manuscripts only go through one round of peer review at the time of
180 writing. The acceptance email is not the end of the process; you will be asked to complete
181 copyright forms and to check the proofs following production. When you email the proofs
182 back to the publisher, then you can celebrate.

183 In some cases, the editor will decline your work. Do not be disheartened, fully address
184 the feedback and select another journal. If your manuscript is declined by an editor and you
185 rework it and submit elsewhere, be absolutely open with the new journal. There is a very
186 good chance that the same reviewers as before will see your new manuscript. In the cover
187 letter, explain candidly the history of the manuscript and that you have taken note of the
188 feedback from the first journal. Finally do not forget to reformat the manuscript to the
189 requirements of the new journal.

190

191 **4. Ethical considerations**

192 Ethics in scientific publishing are a very important consideration indeed; in the world of
193 science, reputation is all (Talent 1989, Raja and Dunne 2021). Sadly, one cannot assume that
194 all dubious ethical practices are discovered, and the reputational consequences duly felt. The
195 five chapters in the section entitled ‘Research Ethics’ in Shoja et al. (2019) are highly
196 recommended for a comprehensive view on this often tricky area. Firstly, be sure to offer all
197 colleagues co-authorship to all persons who have materially contributed to your work (Feeser
198 and Simon 2008, Wager 2019). Contributions such as designing the research programme,
199 obtaining funding, undertaking analyses and/or fieldwork, or supervising the project clearly

200 are worthy of co-authorship. This may well be a delicate matter and your mentor, supervisor
201 or team leader will advise. There is, of course, a balance to be struck; a colleague who once
202 lent you a marker pen in the laboratory will not expect (or indeed deserve) co-authorship
203 (Teixeira da Silva and Dobránszki 2016).

204 All scientific articles will inevitably draw on the work of others. However, do not
205 even think about flirting with borderline plagiarism (Kumar et al. 2014, Masic 2019). Be sure
206 to give the appropriate credit to previous researchers by citing specific relevant published
207 papers. Always give credit where it is due. Guard against repeating the work of others
208 verbatim; if this is necessary, insert a formal quotation. If you mention any specific
209 commercial products, make a statement at the end of the paper stating that you do not
210 necessarily endorse or recommend them and do not have any conflict of interests generally.
211 Likewise, acknowledge registered trademarks of a company or product with the ® symbol.

212

213 **5. Reproducing existing display materials and text**

214 If you need to reuse a diagram, a photographic image, a table or some text from an existing
215 publication, you should always seek permission and give the appropriate acknowledgement
216 of the source in the caption and the reference list. This of course also applies to the
217 reproduction of any other intellectual property such as audio/video clips, datasets, images
218 from websites, logos/trademarks, maps, music lyrics, poems etc. In the vast majority of cases
219 an item of display material etc. which has already been published, either digitally or in print,
220 will be the intellectual property of somebody, and will be copyrighted. The corollary of this is
221 that permission is needed in order to reproduce it. Normally the publisher controls the
222 copyright of items they have issued, and hence can grant permission to others for the
223 reproduction of figures and the like, even if the author(s) actually own the copyright.

224 If the journal or publisher you are aiming at is a signatory of the Guidelines of the
225 International Association of Scientific, Technical and Medical (STM) Publishers
226 (<https://www.stm-assoc.org/intellectual-property/permissions/permissions-guidelines/>), the
227 procedure for obtaining permissions to re-use is extremely simple. The STM Guidelines aim
228 to expedite the granting of permission to authors for the re-use of limited amounts of
229 previously published materials free of charge and with minimal administrative effort. Most
230 academic publishers have signed up to the STM Guidelines, including the Journals Division
231 of Taylor and Francis. The signatories have a choice either to allow re-use without
232 notification (the ‘automatic process’), or to allow reproduction with notification. When you
233 need to reproduce a published item of display material or chunk of text, simply peruse the list
234 of signatories to the STM Guidelines to determine which one of these scenarios apply. For
235 Taylor and Francis journals such as *Palynology*, one has to provide notification. All such
236 requests should be emailed to permissionrequest@tandf.co.uk. This means that you may
237 reproduce up to three figures from a single published item issued by another STM Guidelines
238 signatory free of charge. There are, however, certain caveats designed to prevent wholesale
239 re-use of materials. For example, you cannot re-use more than six items from a single volume
240 of a journal. Naturally, you must acknowledge the source of the item(s) you are reproducing.
241 The best way to do this is to quote the author(s) and the year in the caption as normal and list
242 the full details of the paper in your reference list.

243 Another strategy for reproducing a figure or similar is simply to contact the author
244 and the publisher direct to seek formal permission. Normally both these parties will gladly
245 give their written permission free of charge on the proviso that you acknowledge the original
246 source in your text. If you wish to adapt/emend the original artwork it is courteous to inform
247 the author and publisher, giving the details of the proposed changes. In this case, it is often

248 simpler to draft a brand new graphic. More details on this topic can be found at
249 <https://authorservices.taylorandfrancis.com/editorial-policies/>.

250

251 **6. Formatting**

252 This is a general, and very important, aspect. As an author, you should stick like superglue to
253 the textual format of the journal at which you are aiming for. Always remember that the first
254 person to peruse your manuscript will be the editor. They will be intimately familiar with the
255 format, and will immediately and forensically spot any deviations from it. This issue will
256 inevitably distract the editor from your fantastic science. Perfect formatting will give the
257 editor positive and warm feelings about your article. More prosaically, the more effectively
258 you format your work, the chances of errors by the production team are reduced should your
259 manuscript be accepted.

260 I strongly advise authors to use a recent paper from the journal in question as a
261 formatting template. Using standard word processing software such as MS Word® or
262 LaTeX®, it is very easy to mimic aspects like using bold font and centred text for the title,
263 the format of the authors' addresses and the section/subsection titles etc. If you use a recent
264 paper, you will easily be able to reproduce the section/subsection format. For example, does
265 the journal use section/subsection numbering, and are citations with two authors 'Smith and
266 Bloggs' or 'Smith & Bloggs' etc.? Do not, however, go overboard here; for example there is
267 no need to use a two-column format or mimic the hanging indents that are typically used for
268 the references. The balance should be that, if it is very easy to stylistically reproduce
269 (bold/italic/roman fonts etc.), then do it if you can. Note that the running text should normally
270 be left-justified, but not right-justified.

271 Having said all the above, certain journals are now waiving the strict rules on textual
272 formatting. Here, at least the initial submission can be in free format. In these cases, the final

273 formatting into house style is done during the production of the paper following acceptance.
274 Arguably this is a good thing. However, *Palynology* is not one of these journals, and I would
275 strongly advocate writing manuscripts in our house style.

276

277 7. Peer review

278 It seems appropriate at this juncture to briefly discuss the peer review process, which has
279 been mentioned several times already. It is perfectly normal for a researcher who has just
280 produced their first manuscript to be somewhat surprised at the intense level of scrutiny of
281 their work that is involved during peer review. This system seeks to critique and hence
282 improve the quality of published academic work (Figure 1). It is the only widely accepted
283 method for the validation of research and has been practiced continuously, with only
284 relatively minor changes, for the last ~350 years. The beginnings of the peer review process
285 can be traced back to Henry Oldenburg (1618–1677) who was the first editor of the
286 *Philosophical Transactions of the Royal Society*, the original exclusively scientific journal
287 (Manten 1980, Burnham 1990, Spier 2002). As editor, Henry Oldenburg sent out submitted
288 manuscripts to specialists who were able to evaluate their quality prior to acceptance for
289 publication.

290 The system is imperfect, for example some reviewers can use somewhat brusque and
291 use intemperate language, lack objectivity and be overly conservative in outlook (e.g.
292 Mulligan 2004, Alberts et al. 2008, Lee et al. 2013, Baglini and Parsons 2020). Also some
293 referees appear to put very little effort into their reviews which can be confusing and
294 somewhat demotivating for the authors. Reviewers' comments can take many forms, and be
295 in varying degrees of detail, so do not be surprised by this phenomenon. A frequent
296 frustration by authors is that some reviewers request (perceived) unnecessary additional
297 analyses and/or experiments, rather than concentrating on the manuscript before them.

298 Despite some criticism of the process, including its integrity, peer review is still the best
299 method for rigorous scientific evaluation, and has the trust of the research community at
300 large. Authors should not forget that any editor would immediately spot a biased or
301 mendacious review, and would rescind it. A famous quote, attributed to Winston Churchill in
302 1947 is that: “democracy is the worst form of government, except for all the others”. This
303 memorable quotation could be adapted for peer review i.e.: “peer review is the worst strategy
304 for the appraisal of academic research, except for all the others”. In what I estimate to be
305 >95% of cases for this journal, the peer reviewers are collegiate, constructive, friendly and
306 helpful. If you ever feel you have had a bad experience with peer reviewers, please briefly
307 consider where scholarly research would be without it (Bohannon 2013).

308 There are several methods of peer review and *Palynology*, like most other journals,
309 uses a closed, single blind peer review process (Ali and Watson 2016, table 1). Closed, single
310 blind peer review is a system where the identities and affiliations of the authors are clear to
311 the reviewers, but conversely the details of the reviewers are not disclosed to the authors (or
312 the readers). That said, it is the prerogative of individual reviewers to voluntarily waive their
313 anonymity and this happens very frequently indeed. The principal advantage of reviewer
314 anonymity is that frank and honest feedback can be given. The flipside to this is that some
315 individuals can hide behind this anonymity to give unduly harsh feedback. Closed, double
316 blind peer review is where neither the authors nor the reviewers are made aware of each
317 others’ identity or affiliation. In marked contrast, open peer review is a style where both
318 authors and reviewers are known to each other throughout the entire procedure.

319 Early career researchers would benefit markedly from getting experience of the peer
320 review process to help them better understand the system and its undoubted vagaries. So, if
321 you are an ECR, why not contact the editors of selected journals volunteering for this task?
322 Sometimes editors struggle to get reviewers, so you are sure to get a positive response!

323

324 **8. Specific guidance on technical writing with the emphasis on palynology ('top**
325 **tips')**

326 In this section, 16 specific aspects of manuscript production are outlined which are aimed at
327 helping authors, particularly ECRs. The final one is a miscellany. I have tried to be as
328 comprehensive as possible despite the fact that individual readers will be fully cognisant of
329 some of these facets of manuscript production. One general point for authors whose first
330 language is not English is to have your work thoroughly checked over for phraseology,
331 spelling, style etc. by someone who is fluent in English. Naturally, there are publications
332 designed to help with this, for example Glasman-Deal (2010).

333

334 **8.1. Cover letter**

335 This is your chance to sell your manuscript to the editor. Do not write a short, anodyne
336 message simply reiterating the title and giving the usual blurb about the manuscript not been
337 published elsewhere, not under consideration by another journal, and that all the co-authors
338 participated in the research and the writing, approved the manuscript, agree with its
339 submission and have no conflicts of interest. These details should absolutely be included, but
340 use the cover letter to concisely persuade the editor, for instance, that your paper is really
341 important and novel, how it will appeal to the readership, and how it will enhance their
342 journal. Mention the potential readership demographic and the likelihood of lots of citations.
343 That said, do not be hubristic, and fall into the trap of overselling your manuscript. Any
344 recommendations of reviewers should go in the cover letter. Most online submission
345 interfaces no longer allow authors to do this. The reason for this is past malpractice (not by
346 any authors of papers in *Palynology*).

347

348 **8.2. Title**

349 The title is the part of your paper that will be read by far the most people, so it is clearly
350 imperative to get it right. As an author, you want people to be attracted to your work when
351 they peruse a list of papers in a journal or in an online search. So, aim to impart the maximum
352 information in as few words as you can. Readers are attracted to short, snappy titles; long,
353 rambling ones are a real turn off (Letchford et al. 2015). Less is assuredly more in this case!
354 That said you should always include geochronology/stratigraphy, geography and specific
355 palynomorph groups as appropriate. For example it is profoundly annoying to come across a
356 paper with a title that gives no clue as to the geological age of the samples studied, or the
357 geographical focus of the study (it happens). Take both care and time when you draft your
358 title, and be prepared to change it frequently during and after writing all drafts of the
359 manuscript. A good check is to imagine a person native to a far-flung country from yourself
360 and not a specialist in the subject matter reading your title; would they be able to assimilate
361 and understand it?

362

363 **8.3. Abstract**

364 Apart from the title, the abstract will be the most widely read part of your paper. The abstract
365 aims to concisely summarise the purpose of the study, the principal results and the major
366 conclusions. It is not there for you to simply list what you did during your research (Landes
367 1966, Grech 2013, Walski and Watkins 2017). Do not write, for example “.....samples were
368 collected from the Random Formation and studied.”. Write the abstract when you have
369 finished the main text and craft it so as to draw the reader in to the main paper (Hartley and
370 Cabanac 2017). Ensure that it is in abstract in block/unstructured format, i.e. a single
371 paragraph of text. Remember journals have strict word limits for abstracts; ours is 300 words,
372 which is fairly typical. Do not fall into the trap of cutting and pasting your conclusions

373 section! Because abstracts frequently appear separately from the main article, it should be
374 able to stand alone so references should be avoided.

375

376 **8.4. Keywords**

377 The selection of keywords is very important indeed; these will be critical in attracting readers
378 to your work. In particular, they are used by automated search engines and, if you do not
379 choose them carefully, your paper may be missed by some of these. You may choose up to
380 seven keywords in *Palynology*; try to use all of them if you can. Ensure that you mention the
381 biological, botanical, geological, geographical and stratigraphical focus of your paper, plus
382 the aim of the work (e.g. biostratigraphy, floral history, palaeogeography etc.) as appropriate.
383 Because the name of our journal is *Palynology*, I do not think ‘palynology’ is a particularly
384 good choice of a keyword, however always mention the principal palynomorph group(s) that
385 you are discussing. For example, if you inadvertently omit, for example, ‘acritarchs’ from the
386 string of keywords, some relevant specialists may not be informed of the article via
387 automated alerts and updates.

388

389 **8.5. Structure**

390 Most papers on palynology, like in most areas of the natural sciences, fall into an ostensibly
391 formulaic structure. This would typically be something like: introduction, literature
392 review/geological background, material and methods, results, interpretations,
393 conclusions/summary, acknowledgements, and references. *Palynology* does not enforce a
394 specific structure onto authors. Moreover, we are not looking for a forensic application of the
395 traditional scientific method of asking a science question, conducting research, formulating a
396 hypothesis, doing experiments, making observations, and formulating results and conclusions
397 (Gower 1997, Gauch 2003). However try to show, as far as it is possible, that you have

398 followed the standard scientific procedure. The main thing to bear in mind that the structure
399 of your manuscript should be logical, and communicate your data and interpretations
400 effectively. Never forget, you are telling a story!

401

402 **8.6. *Display materials***

403 There are virtually no papers in *Palynology* without any Figures or Tables. Consider your
404 reader carefully when drafting these items. This means ensuring all of them are justified in
405 terms of the text, and not making them overly complex. Both Figures and Tables should be
406 aesthetically pleasing, neat and readable. Ensure that the dpi (dots per inch, a measure of the
407 resolution of the image) is suitable and that the font size is large enough so that all the text is
408 easily legible. Try to avoid using abbreviations if there is room to write out the full word or
409 phrase. In other words, only abbreviate the word 'Formation' to 'Fm.' in a Figure or Table if
410 you have space issues. With graphics, always submit editable files in a suitable format such
411 as eps, jpeg or tiff.

412 It is important in this context to understand the difference between raster and vector
413 graphic files. Raster graphics, such as jpg, png or tiff formats, are dot matrix files that
414 represent grids of pixels. The advantages of raster graphics are that the formats are widely
415 used, and the file sizes are generally are not excessively large. On the other hand, if a raster
416 file is enlarged substantially the image becomes blurred or pixilated. In addition, some raster
417 images can be difficult to edit. By contrast vector graphics, for example ai, eps and svg files,
418 comprise curves, lines and points that are based on mathematical equations rather than simply
419 matrices of pixels. This means that the curves, lines and points can be scaled up or down
420 without distortion (i.e. pixilation). Therefore no matter the size of the image, or how far
421 zoomed it is, the curves, lines and points remain smooth; it will never develop unsightly
422 blurriness or jagged lines (Marschner and Shirley 2016). However, if the font used cannot be

423 read by the pagemaking software during production, some of the characters may be corrupted
424 or substituted. Therefore it is best to stick to industry standard fonts such as Arial. Also,
425 during typesetting, vector images can take longer to incorporate into the master file of the
426 paper than the much simpler raster images. In conclusion, if your artwork files are relatively
427 simple, and are unlikely to be excessively enlarged for clarity by the reader, then raster files
428 such as jpg will normally be fine. However, if you have some complex or wordy figures such
429 as range charts, do consider submitting them as vector files for example in eps format.

430 Remember to take as much care when writing the captions for the Figures and Tables
431 as you do when you are writing the main text. Your readers will scrutinise graphics such as
432 range charts very carefully so these should be described adroitly in the captions. Each caption
433 should stand alone, and thus the associated figure or table is interpretable without reference to
434 the main text. Do not submit the captions as a separate file, simply include them at the end of
435 the main document. Finally do not forget to number Figures and Tables sequentially, based
436 upon first mention ('callout'), in the main text (Table 1).

437

438 **8.7. *Plates***

439 Naturally, a sizeable proportion of papers in our journal include photomontages of
440 palynomorphs. Many journals simply classify these as Figures, but *Palynology* has always
441 used the term Plates for these images. This is a conscious decision and we feel that this is
442 justified because it is more effective to cross reference photographs of palynomorphs in the
443 running text if there is another subdivision of display material aside of Figures and Tables. In
444 other words it hopefully allows readers to identify specific photographic images more easily.
445 If you need to submit Plates, please try to make them as aesthetically pleasing as you can
446 with, for example, consistent background colours, straight confining edges with 90° corners,
447 neatly cropped images and correctly-oriented palynomorphs (Riding and Head 2018). Label

448 the photographs with numbers and not letters. You can either use scale bars or mention the
449 size of the palynomorphs in the captions.

450 Remember that photographing palynomorphs does not necessarily need a
451 sophisticated photomicroscope these days (Kerp and Bomfleur 2011). Modern mobile phones
452 typically have excellent cameras. With practice, one can use a mobile phone placed carefully
453 over the camera tube of the microscope to obtain publishable images. This practice requires
454 patience, a steady hand and a good mobile phone. Relatively inexpensive phone clamps
455 which can be used in this procedure are widely available. Figure 2 is a photograph of a fossil
456 dinoflagellate cyst taken by the author using his mobile phone. This item is not a plate here
457 because it is only one image and not a montage of two or more photographs.

458 Finally, do take care when preparing captions for the Plates. For example, include key
459 sample details, museum curation numbers and England Finder coordinates if applicable
460 (Riding 2021a). If there are many data applicable to each image, items such as stratigraphical
461 details and well numbers can be placed in spreadsheets in the Supplementary data (subsection
462 8.13). Double check that all the photographs in each Plate are mentioned in the caption.

463

464 **8.8. *Conclusions section***

465 The overwhelming majority of scientific papers should have a conclusions section at the end.
466 Do not fall into the trap of not including a concluding statement even if your paper is
467 virtually all systematics. The conclusions should not be a cut and paste of the abstract! This
468 section should be a concise and punchy summary of the achievements of your research paper
469 and their greater significance. You should be immodest in lauding its breakthroughs, as well
470 as acknowledging its less successful aspects. Here is also a good place to discuss potential
471 future research avenues.

472

473 **8.9. Acknowledgements**

474 It is a courtesy to the people who have materially helped you with your paper to thank them
475 in the acknowledgements section at the end of the main text. These colleagues may be
476 funding agencies, laboratory technicians, landowners of field sites, mentors and the like. Try
477 to keep this section as concise as possible. One important point is that you are enthusiastically
478 encouraged to thank your referees. The peer reviewers do a great job in providing critiques of
479 your work and advising on how your manuscript can be improved. Thank them, even if they
480 chose to remain anonymous.

481

482 **8.10. Notes on contributors**

483 In *Palynology*, we offer all authors the opportunity to include a short biographical note and a
484 photograph of themselves for inclusion between the Acknowledgements and the References.
485 This is to help give the readers of the paper a more tangible connection to the authors and
486 promotes what might be termed ‘the personal touch’ (Riding 2021b). Relatively few journals
487 offer this option. Authors should note both the biographical sketch and the photograph are
488 absolutely optional. Try to keep the biographies concise; a short paragraph is ideal and do not
489 to forget to submit these items online with the main submission. The biographies should
490 simply be included in the main document and the photographs uploaded separately.

491

492 **8.11. References**

493 The list of references at the end of your manuscript is very important. Take great care when
494 preparing this listing; you may wish to use proprietary bibliographical software if you wish.
495 Take great care to use the format that is specified for the journal you are aiming at.
496 Unfortunately, these formats vary significantly (Riding and Powell 2018). *Palynology*
497 follows the CSE (Council of Science Editors) style for the references (Council of Science

498 Editors 2014). This uses the citation-name system, as opposed to the name-year system. What
499 this means in practical terms is that references with more than one author are arranged by the
500 second author name and not the year of publication. Thus Smith and Bloggs (1999) would be
501 listed in the reference list before Smith, Evans and Bloggs (1972).

502 Preprints (subsection 8.15) can of course be cited because they have digital object
503 identifier (doi) numbers. However, do not be tempted to cite non-published works in the text,
504 and include these in the reference list. I refer to manuscripts ‘in preparation’, ‘in review’ or
505 ‘in revision’. These of course are unavailable to the reader so are effectively useless as
506 references. By far the worst of this infamous trio is ‘in preparation’; in this case, simply refer
507 to ‘unpublished data’.

508

509 **8.12. Appendices**

510 You may need to include data tables, lists of taxa with author citations and the like in your
511 manuscript. These can be in the form of appendices and these are placed after the references.
512 However, if these appendices are large, you should consider including them as
513 Supplementary data (see below).

514

515 **8.13. Supplementary data**

516 The appearance of a paper can be diminished aesthetically by the inclusion of lengthy
517 appendices and large tables of data in the main article despite the scientific basis of the article
518 being absolutely contingent upon them. This issue can be elegantly solved by the use of
519 Supplementary data which is directly linked to the main paper. You can include in your initial
520 submission a document or documents (in original or pdf format or both) with necessary but
521 somewhat cumbersome items such as detailed expositions of methodologies, large data tables
522 and lists of palynomorph taxa with author citations etc. If data tables are in their native

523 format (e.g. MS Excel®), they are more useable by readers. These documents are sent to the
524 reviewers and, upon publication, are accessible to readers online via a weblink on the first
525 page, normally in the footer. Please note that the Supplementary data document or documents
526 are not typeset by the publishers. Assuming the reviewers like it, the material is simply
527 placed online. If any corrections or revisions are required, this is solely the responsibility of
528 the authors.

529 As an alternative, or an add-on, to Supplementary data associated with a paper,
530 information can be uploaded to dedicated online depositories such as Dryad
531 (<http://datadryad.org/>). Dryad is a not-for-profit entity which promotes data curation,
532 preservation and publishing. Any data uploaded to Dryad is freely available for download to
533 the user community (e.g. Greenberg 2009). Other online repositories are available for
534 example Figshare (<https://figshare.com/>). There are also more specific online platforms such
535 as Github (<https://github.com/>), which is a web-based repository for the development, hosting
536 and maintenance of computer software. Use of these resources is to be encouraged to
537 promote the free availability of scientific data for both peer review or general information
538 storage.

539

540 ***8.14. Open Access Publishing***

541 The traditional business model of the publishing industry is that the reader pays. Therefore, in
542 the context of scientific journals, the reader, or their employer, pays for a subscription to an
543 individual journal or a bundle. However, this has changed markedly since the early 1990s.
544 Open Access Publishing (OAP), where the author, their institution or their research grant
545 pays, is a relatively new way of publishing peer reviewed scholarly articles. This method
546 demonstrably increases the impact, readership and general visibility of research articles. Bear
547 in mind that your employer or funder may mandate you to publish using OAP. Another

548 important difference with OAP is that the author retains the copyright as opposed to the
549 publisher or the Society. In the OAP model, the editorial and publishing costs are recovered
550 from the author via an APC (article processing charge, e.g. Suber 2002, 2012, Evans and
551 Reimer 2009, Björk et al. 2010). Many publishers have agreements with some institutions
552 whereby the latter will cover part or all of the APCs for their staff. The APC for a manuscript
553 to be submitted to *Palynology* can be found at
554 <https://authorservices.taylorandfrancis.com/publishing-open-access/open-access-cost-finder/>.

555 Directly upon publication of an article published via OAP, the full text can be freely
556 read by anyone, anywhere, anytime, as long as they have an internet connection.
557 Furthermore, provided an open access article is disseminated under the terms of the Creative
558 Commons Attribution License, it can be distributed, reproduced and used, as long as the
559 original author(s) and source are acknowledged. This new mode has grown rapidly since
560 1993. Between 2000 and 2010, the average annual growth rate of articles published by OAP
561 was ~30%. This is far in excess of the reported yearly 3–4% growth in the volume of
562 publishing overall (Laakso et al. 2011, Science and Engineering Indicators 2019).

563 The purest form of OAP is Gold Open Access where content is made available freely
564 on the internet immediately upon publication. This has also been termed Direct OAP and
565 contrasts with Delayed OAP where articles are made freely available following a specified
566 embargo period. In the case of Delayed OAP, there is normally no APC and the author does
567 not retain the copyright. Another variety is Hybrid OAP where an author, or more likely the
568 author's employer, pays for an article to be made freely available in an otherwise
569 subscription-based journal. This is the model adopted by *Palynology*. The alternative to Gold
570 Open Access is Green OAP. This is the self-archiving of articles by uploading the
571 manuscript, paper or pre-print to the author's personal homepage, their institutional
572 repository or a subject-based depository (Harnad et al. 2004).

573

574 **8.15. Preprints**

575 Preprints are draft or final versions of manuscripts that are entered into the public record,
576 normally via online servers, before they have been formally peer reviewed or published by a
577 journal (e.g. Berg et al. 2016, Maslove 2018, Fry et al. 2019). The modern concept of
578 preprints is a revival of a practice initiated during the 1960s; this was discontinued because
579 journals refused to accept articles that had previously been circulated as analog preprints
580 (Cobb 2017). Similarly, at the time of writing, certain individuals have reservations about
581 their use (Sheldon 2018, van Schalkwyk et al. 2020).

582 The widespread distribution of preprints on the internet dates from the early 1990s.
583 When preprints are posted online they are assigned a doi number by the online preprint
584 archive, database or platform to which the document was uploaded to. There are several
585 reputable and widely-used online platforms for preprints (Desjardins-Proulx et al. 2013). A
586 prominent example is bioRxiv (pronounced ‘bioarchive’), which is aimed at the life sciences
587 (<https://www.biorxiv.org/>). Preprints can also be hosted in institutional repositories. Hence
588 they permanently enter the scientific record and are therefore citable.

589 From the author’s perspective, their work enters the public realm expediently in the
590 form of a preprint. This may be critical in cases where a manuscript has a long gestation
591 period. For example where it is submitted to a high-impact generic science journal and is
592 rejected following a protracted review process then resubmitted to, perhaps more than one,
593 more specialised journals. Moreover, the potential impact of a manuscript which is first
594 disseminated via a preprint is maximised. Furthermore preprints allow, for example, data and
595 interpretations to be extremely rapidly circulated, feedback from peers to be garnered
596 efficiently and the precedence of commercially sensitive and/or novel science to be
597 unequivocally established.

598

599 **8.16.and finally**

600 When you have finished a draft of a manuscript you should always do a check of key aspects
601 such as the accuracy of the references and the correct ordering of the Figure numbers in the
602 text (callouts). Table 1 is a checklist of 17 items that will help you to remember these
603 important points.

604 What follows here is a miscellany of sundry items which also should be checked for.
605 For example, do not abbreviate the names of genera in the running text; the space saved is not
606 worth the information lost. By contrast, standard abbreviations such as SEM for scanning
607 electron microscope should be used, but explained at the first mention in the manuscript.
608 Thus the first instance should read, for example, “..... the specimens were imaged using a
609 scanning electron microscope (SEM).....”. Additionally, always ensure that you use technical
610 terms consistently throughout the manuscript. For example if you discuss microforaminiferal
611 linings, and pollen and spores, then use these terms throughout and do not also refer to
612 foraminiferal test linings or miospores (Riding 2021a, subsection 15.4). Avoid even
613 borderline slang terms wherever possible, for example dinoflagellate cysts is a far better term
614 than the much more colloquial ‘dinocysts’. Finally, if you are writing about geological time
615 and sedimentary rocks, do remember not to confuse chronostratigraphy (early, late) with
616 lithostratigraphy (lower, upper) (Aubry 2007).

617 Try to note even the most arcane items, for example using en dashes (‘long hyphens’)
618 rather than hyphens to indicate ranges of numbers, dates etc. For example “.....the years
619 1970–1985 were a very productive interval for research on dinoflagellate cysts.”. In a
620 manuscript you should use en dashes when writing the page range of papers (e.g. 232–250).
621 Please bear in mind that, contrary to popular belief, editors are human and will not mind if
622 you have used hyphens instead of en dashes for page ranges etc. and the production team will

623 change them for you. These sort of relatively obscure issues will be dealt with by the
624 copyeditors and typesetters when your paper is in production.

625

626 **9. Concluding remarks**

627 It is hoped that this relatively short piece is an effective practical guide which will provide
628 useful advice, particularly to all persons who are interested in joining the prodigious numbers
629 of scientists who are already published. There are thought to be around 30,000 journals out
630 there. The number of published papers in science and engineering has increased by at least
631 4% per annum between 2008 and 2018. Recent bibliometrical statistics reveal that just over
632 2.5 million articles were issued globally during 2018, compared with ~1.7 million in 2008
633 (Science and Engineering Indicators 2019). Hence it could be persuasively argued that we are
634 in an era of information overload (Landhuis 2016).

635 This article has been crafted with palynologists specifically in mind. Bear in mind that
636 this guide is deliberately concise while hopefully being as comprehensive in scope as
637 possible. Despite my best efforts, I will not have mentioned everything. It is absolutely not a
638 specific pitch for *Palynology*; you can publish wherever you like and this is all to the good of
639 our fantastic area of science.

640 It is an unequivocal fact that scientific publishing requires substantial effort but, with
641 hard work, your paper will get published. Remember that executing excellent science is one
642 thing, but you also have to work hard on clear and concise written communication, and the
643 excellence of your display materials. By far the best way to become adept at technical writing
644 is by actually doing it. You will learn far more while preparing your first manuscript than
645 during any course or by reading a textbook cover-to-cover. Good luck!

646

647 **Acknowledgements**

648 I am grateful to Autumn Pugh for instructing me how to take good photographs from down a
649 microscope eyepiece using a mobile telephone. My colleague, Anjana Bhargavan (Production
650 Editor), is thanked for her incisive technical advice pertaining to this article. Francesca
651 Everard of Taylor and Francis and two anonymous peer reviewers also helpfully and
652 perceptively critiqued the first draft. The author publishes with the approval of the Chief
653 Executive Office, British Geological Survey (NERC).

654

655 **Disclosure statement**

656 No potential conflict of interest was reported by the author.

657

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660 UK. He largely concentrates on the Mesozoic and Cenozoic, with a strong penchant for
661 dinoflagellate cysts.

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665

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872

873 *Display material captions:*

874

875 **Figure 1.** A generalised flowchart illustrating the path from the initial groundwork for a co-
876 authored manuscript to eventual publication in ten stages (adapted from Rosenfeldt et al.
877 2000). At stage four, the informal in-house review is optional but recommended; some
878 authors may be mandated to do this by their employers, sponsors etc. Note that a manuscript
879 can be accepted by a journal editor with no revisions requested (stage five), however this
880 scenario is comparatively rare. Also in stage five, the term ‘decline’ is used rather than the
881 much more brusque ‘reject’. The two arrows into the ‘DECLINE’ box are to indicate that the
882 manuscript can be turned down by the editor without sending it out to referees (a so-called
883 desk-reject), or following recommendations to decline by the reviewers. At stage seven note
884 that, in most cases, a second round of peer reviews will not be necessary; this is at the editor’s
885 discretion. Abbreviations: lab. = laboratory; mic. = microscope; ms. = manuscript; ADMIN.
886 = administration.

887

888 **Figure 2.** A photograph of the dinoflagellate cyst *Korystocysta gochtii* (Sarjeant 1976)
889 Woollam 1983 from the Middle Jurassic of northern Bulgaria taken by the author using his
890 mobile phone during a visit to the Geological Institute of the Bulgarian Academy of Sciences,
891 Sofia, Bulgaria in July 2018. Note that the optical resolution is of publication standard. The
892 specimen is curated in the collections of the late Lilia Dodekova (1934–2016) in the
893 aforementioned institute (Metodiev 2016). The specimen is 66 µm long and 51 µm wide.

894

895 **Table 1.** An *aide-mémoire* or checklist of 17 final tasks to undertake once you have finished
896 any draft of your manuscript. Before or after embarking on these tasks double check that your
897 manuscript is suitable for the journal you are considering. Finally, carefully read the entire
898 manuscript, when you have a clear head, all at one sitting before you submit.
899