

Tips and tricks for writing constructive peer reviews

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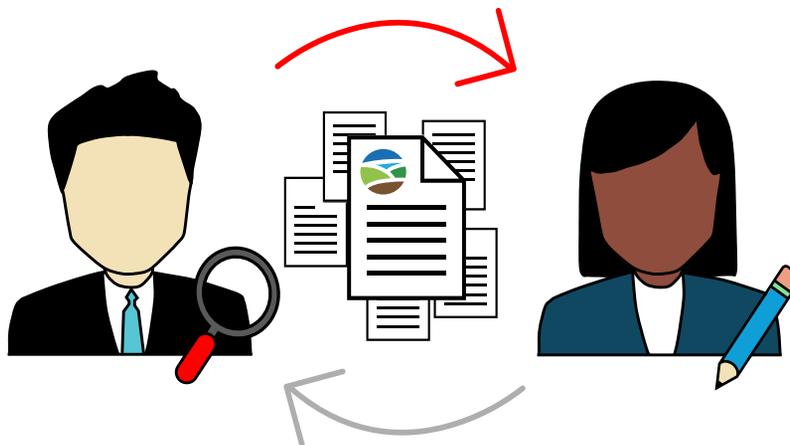
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Graphical abstract



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Peer review has been the cornerstone of scientific inquiry for centuries and is considered the backbone of scientific quality and rigour (Spier, 2002). Despite its importance to the scientific process, peer review suffers from a variety of issues that undermine objectivity and impartiality, and act as

a disservice to both science as an institution and the scientists that engage in it (Smith, 2006; Proctor *et al.*, 2023; Candal-Pedreira *et al.*, 2024). Furthermore, issues with peer review can drive public mistrust of science (Cooke *et al.*, 2024).

One issue that has received much attention in contemporary discussions on peer review is poor reviewer etiquette. By default, peer review is an interpersonal enterprise and relies on written communication between authors and reviewers, with reviewers providing critical appraisal of research conducted by the authors. Unfortunately, the nature of this relationship provides for an environment where written evaluations of scientific works can present as unconstructive, harsh or downright mean. Indeed, some peer reviewers feel that harshness is justified to prevent the publication of poor-quality science (Gerwing *et al.*, 2021).

Although communication between authors and reviewers is mediated by journal editors, unprofessional peer reviews (i.e. unconstructive or unethical reviews) often make their way to authors. For example, a survey of >1100 practicing scientists revealed that approximately 60% had received unprofessional reviews during their career (Silbiger and Stubler, 2019). Another study reported that 10–35% of peer reviews in the field of ecology and evolution, and >40% in the field of behavioural medicine, contained unconstructive and often demeaning comments (Gerwing *et al.*, 2020). These types of reviews can result in delayed publication times, unaddressed reviewer comments, increased author–reviewer conflicts, and negative effects on the productivity, self-confidence and mental health of authors (Clements, 2020a, 2020b; Feinmann, 2024); such negative effects are reported to disproportionately affect underrepresented groups, including women (Silbiger and Stubler, 2019) and early career researchers (ECRs) (Derrick *et al.*, 2023).

Most published discussions of reviewer conduct underscore a need for formal training (Clements, 2020b; Gerwing *et al.*, 2021; Feinmann, 2024); however, such training remains rare (An *et al.*, 2023; Buser *et al.*, 2023; Willis *et al.*, 2023; Stupacher, 2025). Consequently, many reviewers may not have the skills to provide a collegial and constructive peer review. To help fill this gap, *Conservation Physiology* recently introduced guidelines for reviewers (<https://academic.oup.com/conphys/pages/guidelines-for-reviewers>). This editorial aims to support those guidelines by providing peer reviewers with directed guidance for generating constructive peer reviews (Fig. 1). The goal here is to help promote a collaborative and collegial peer review process and minimize conflicts between reviewers and authors. To help achieve that goal, we provide direction on how (and how not) to make reviewer comments constructive and useful for authors. We then highlight additional, overarching facets of peer reviews that can increase constructiveness and utility. The perspectives shared here are based on our experiences as authors, peer reviewers and editors working with a variety of different journals. As such, the contents of this editorial are broadly applicable across scientific journals and disciplines.

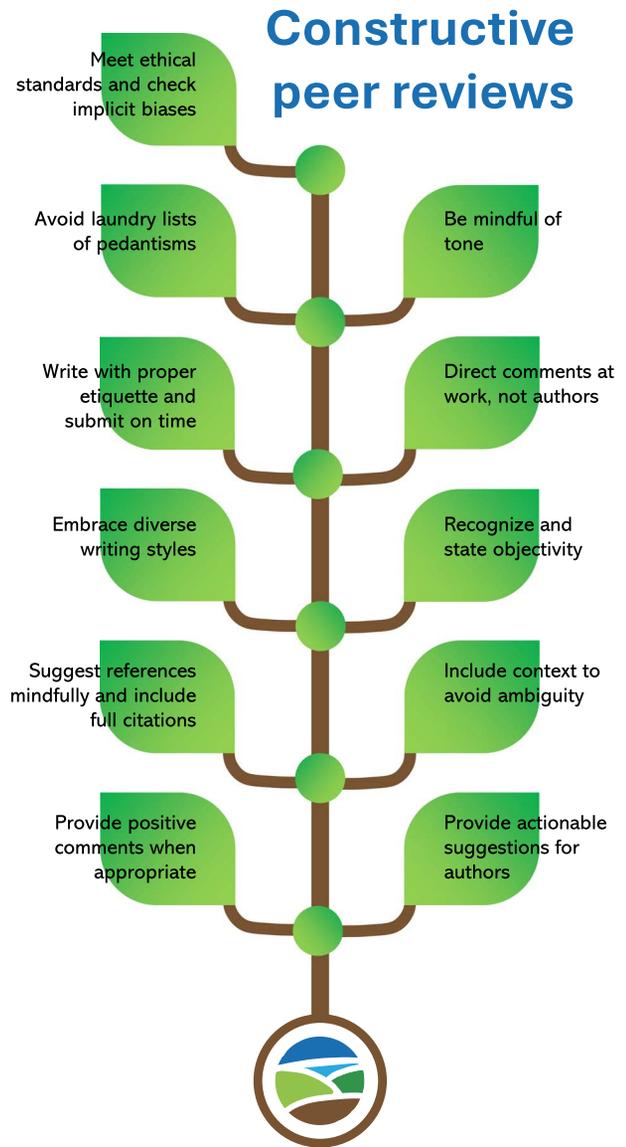


Figure 1: Attributes of a constructive peer reviews.

Five tips for writing constructive comments

In this section, we provide five tips with directed advice for writing constructive peer reviews based on five common attributes of unconstructive reviews. We use the following reviewer comment to highlight problematic phrasing and indicate how the comment can be altered in an iterative fashion to be more constructive:

'I was disappointed that the authors completely failed to connect physiology and conservation in the Discussion'.

It is important to note here that the attributes of unconstructive reviews are not mutually exclusive and are often present in unison in a single comment, which will be demonstrated throughout this section. A summary is provided in [Table 1](#).

Tip 1: direct comments at the work, not the authors

As a peer reviewer, it is important to remember that your task is to evaluate the written work at hand and not the authors themselves. All too often, reviewer comments contain *ad hominem* commentary directed at the authors rather than the work. Such commentary should be avoided. For instance, in our example reviewer comment, the inclusion of the phrase *'the authors completely failed to'* directs the criticism away from the written text and places it on the authors. As such, the comment comes across as an attack on the authors' competencies rather than a critique of the Discussion. For collegial, constructive comments, always avoid directing your comments at the authors and instead keep them directed on the manuscript. Let us revise the comment above:

Original comment: *'I was disappointed that the authors completely failed to connect physiology and conservation in the Discussion'.*

Suggested revision: *'I was disappointed that the Discussion failed to connect physiology and conservation'.*

Tip 2: be mindful of tone

Perhaps one of the biggest discouragements for authors when they receive reviewer comments is a review with an emotively negative or sarcastic tone ([Baglini and Parsons, 2020](#); [Clements, 2020b](#)). Reviewer comments are sometimes written in an expressive manner that communicates the reviewer's emotional state to the authors. While this tone can sometimes be positive, the role of the reviewer to be critical of the work can often generate a negative tone.

Let us consider the tone of the revised reviewer comment from Tip 1. The goal of the comment is to highlight an omission in the Discussion and direct the authors to revise the text to address the omission; however, the inclusion of a reviewer-oriented adverb (*'I was disappointed'*) directly relays the reviewer's emotional state while reading the manuscript. Such emotive text can negatively impact authors and compound feelings of imposter syndrome, particularly for student authors and ECRs. Comments should be written without emotive underpinnings:

Previous version: *'I was disappointed that the Discussion failed to connect physiology and conservation'.*

Suggested revision: *'The Discussion failed to connect physiology and conservation'*

Care should also be taken to avoid other negative language. For example, while the revised comment does not convey emotional state, particular expressive verbs relay negativity. In the example, the verb *'failed'* implies to authors that they failed to do something obvious when they simply may not have the same thought process as the reviewer. A more appropriate way of phrasing this comment would be to simply keep the language factual:

Previous version: *'The Discussion failed to connect physiology and conservation'.*

Suggested revision: *'There was a lack of connection between physiology and conservation in the Discussion'.*

As detailed by [Baglini and Parsons \(2020\)](#), other examples of expressive language to avoid include:

- Subjective adjectives (*'terrible,' 'poorly,' 'disappointingly'*)
- Depreciatory modifiers (*'barely,' 'hardly,' 'did not even'*)
- Implicative verbs (*'didn't manage to,' 'didn't bother to,' 'didn't take care to'*)
- Narration (*'I didn't bother reading,' 'I was struck by the authors failure to,' 'I had difficulty reading'*)
- Rhetorical questioning (*'are the authors aware of,' 'did the authors even'*)
- Universalization (*'as is abundantly clear,' 'as any good conservation physiologist knows'*)
- Speculation (*'I bet the authors don't,' 'I would guess that the data are'*)
- Overly expressive punctuation (*'This is wrong!,' 'This reference doesn't say that!,' 'This sentence makes no sense . . .'*).

Tip 3: acknowledge that your comments are subjective

Scientists are human, no matter their expertise or the extent of their experience. Reviewer comments are based on these experiences and the reviewer's subjective interpretation of written text. In our example comment, the reviewer subjectively felt that the Discussion lacked a connection between physiology and conservation; however, the authors may have thought that they did make that connection in a clear manner. As a reviewer, making your subjectivity clear to the authors can provide a constructive, non-authoritative buffer for them to realize that although they may have tried to connect physiology and conservation, this connection may not be clear to the reader from the text as written. Your perception can be conveyed by simply adding the phrase, *'I felt that'* at the

beginning of a comment. While this approach is not always necessary, it can provide a more collegial atmosphere between reviewers and authors. Going back to the last iteration of our revised comment from Tip 2:

Previous version: *‘There was a lack of connection between physiology and conservation in the Discussion’.*

Suggested revision: *‘I felt that there was a lack of connection between physiology and conservation in the Discussion’.*

Tip 4: add context to avoid ambiguity

A constructive and useful reviewer comment not only highlights a potential issue, but provides some context for why the issue is an issue to begin with. For example, in the last iteration of our revised comment, there is no context or information to provide the authors with a reason why the reviewer felt the Discussion lacked a connection between physiology and conservation—it just broadly states that there is no connection. To this end, a constructive comment can provide some explanation for why an issue needs to be addressed and can help the authors understand how other readers may digest and interpret their written text.

For example, we may add a sentence to our revised example comment to provide some context:

Previous version: *‘I felt that there was a lack of connection between physiology and conservation in the Discussion’.*

Suggested revision: *‘I felt that there was a lack of connection between physiology and conservation in the Discussion. While the Discussion does a good job of highlighting physiology in the context of existing physiological literature, and conservation implications could be inferred, a more explicit linkage between species physiology and conservation would be beneficial for readers’.*

Tip 5: provide directed and actionable ways for the authors to address your comment

The last piece of a truly constructive reviewer comment directs the authors on how you think they can address your comment. As we mentioned above for our example comment, the authors may think that they already made appropriate connections between physiology and conservation, or may not know how to make those connections clearer. To make your comment useful for the authors, include an actionable statement that directs them on how to make that connection clearer.

Further revising our example comment:

Previous version: *‘I felt that there was a lack of connection between physiology and conservation in the Discussion. While the Discussion does a good job of highlighting physiology in the context of existing physiological literature, and conservation implications could be inferred, a more explicit linkage between species physiology and conservation would be beneficial for readers’.*

Suggested revision (final): *‘I felt that there was a lack of connection between physiology and conservation in the Discussion. While the Discussion does a good job of highlighting physiology in the context of existing physiological literature, and conservation implications could be inferred, a more explicit linkage between species physiology and conservation would be beneficial for readers. I suggest the addition of a paragraph in the Discussion that explicitly highlights how the physiological knowledge generated from this work will aid in the conservation of the species’.*

The authors may have another idea for addressing your comment that differs from the action you suggest; the appropriateness of their idea can be evaluated by reviewers in a second round of peer review, or by the editor if a second round of review is unnecessary. The important aspect is that some direction is provided to the authors so that they are not left guessing what the reviewer wants them to do. If you cannot think of an actionable suggestion for how the authors can address your comment, some consideration of whether the comment is appropriate and feasible may be required. If it is decided that the comment should remain, an open admission of not having ideas for addressing it can be included. If you feel that a suggestion would strengthen the manuscript but is not essential to carry out, it is useful to indicate that a revision is optional.

Additional tricks for crafting a constructive review

In the above exercise, we demonstrated how to write a constructive reviewer comment and highlighted key linguistic attributes to avoid. However, linguistic phrasing is only one facet of a constructive peer review. In this section, we discuss additional attributes of constructive peer reviews that apply to the review, as a whole. Here, we focus on qualities of peer reviews that can help increase collegiality and constructiveness. While not all of the suggestions below are necessary for constructive reviews, considering and integrating them strategically can increase collegiality and make peer review more

Table 1: Summary of the iterative process of revising an unconstructive reviewer comment to be more constructive.

Iteration	Tip/advice	Example text and suggested revisions
Original (unconstructive)	-	I was disappointed that the authors completely failed to connect physiology and conservation in the Discussion.
Version 1	Direct comments at the work, not the authors	I was disappointed that the authors completely Discussion failed to connect physiology and conservation in the Discussion .
Version 2	Be mindful of tone	“I was disappointed that the Discussion failed to connect There was a lack of connection between physiology and conservation in the Discussion.”
Version 3	Embrace that comments are, at times, subjective	I felt that there was a lack of connection between physiology and conservation in the Discussion.
Version 4	Add context and avoid vague statements	I felt that there was a lack of connection between physiology and conservation in the Discussion. While the Discussion does a good job of highlighting physiology in the context of existing physiological literature, and conservation implications could be inferred, a more explicit linkage between species physiology and conservation would be beneficial for readers.
Version 5	Provide directed and actionable ways for the authors to address your comment	I felt that there was a lack of connection between physiology and conservation in the Discussion. While the Discussion does a good job of highlighting physiology in the context of existing physiological literature, and conservation implications could be inferred, a more explicit linkage between species physiology and conservation would be beneficial for readers. I suggest the addition of a paragraph in the Discussion that explicitly highlights how the physiological knowledge generated from this work will aid in the conservation of the species.
Final (constructive)	-	I felt that there was a lack of connection between physiology and conservation in the Discussion. While the Discussion does a good job of highlighting physiology in the context of existing physiological literature, and conservation implications could be inferred, a more explicit linkage between species physiology and conservation would be beneficial for readers. I suggest the addition of a paragraph in the Discussion that explicitly highlights how the physiological knowledge generated from this work will aid in the conservation of the species.

Potential revisions to incorporate each tip are highlighted in green font, deletions are struck-through, and additions are bolded.

enjoyable for authors, reviewers and editors alike, regardless of the outcome of the process.

Familiarize yourself with the ethics of peer review

Peer reviewers play a vital role in research publication and scientific progress, and act as gatekeepers who safeguard the integrity of the scholarly record. Given these responsibilities, reviewers should adhere to ethical guidelines to ensure the integrity of the review process. While the details of such guidelines are beyond the scope of this editorial, reviewers are encouraged to refer to the ‘Ethical guidelines for peer reviewers’ published by the Committee on Publication Ethics (COPE, 2017) and any reviewing-related communications or guidelines provided by the journal (e.g. *Conservation Physiology’s Guidelines for Reviewers*). Indeed, becoming familiar with the ethics of peer review should be treated as an essential component of peer reviewing rather than a ‘trick’ for being constructive.

Remember that peer review is not meant to crush souls

When engaging in a paper as a peer reviewer, it is easy to forget that your words will not only be read by the editorial team, but also by the authors. Research and scientific endeavours are inherently challenging—lack of funding, competition for jobs, pressure to work harder, poor work-life balance, and so on—such that negative peer reviews often lead researchers (especially ECRs) to question their being as scientists. This doubt contributes to phenomena such as imposter syndrome (Chrousos and Mentis, 2020) and ECRs voluntarily leaving a career in science (Kwiek and Szymula, 2025). Approaching peer review from the perspective that we are all part of a collegial and supportive community such that one brings some humanity to a review would serve all of us better. To be clear, that does not mean reducing standards or trading off academic rigour, but rather ensuring that the messaging is delivered in a thoughtful and constructive manner. If you have been asked to engage in the peer review process, you have almost certainly yourself been on the receiving end

of peer reviews. Keep that in mind and ask yourself the question: Would the peer review I crafted help to further the development of the scientist and improve the paper, or would it simply crush their soul?

Recognize and check implicit biases

Each and every person has biases, whether we like to admit it or not. While journal guidelines are a first line of defence against biases that could influence peer review (e.g. declaring conflicts of interest), other conscious and unconscious biases can make their way into the peer review process (IOP Publishing, 2020, 2024). It is important to explicitly recognize and consider those biases during and before submitting your peer review. For example, if you suggested the authors seek English language editing for a manuscript, provide some examples of improper English language from the manuscript and be sure that this suggestion is not rooted in *a priori* assumptions or stereotypes based on the authors' nationality or native language (Poltzer-Ahles *et al.*, 2020). Similarly, check for potential biases related to author geography (Skopec *et al.*, 2020; Dumlao and Teplitsky, 2025), gender (Kaatz *et al.*, 2014; Bernstein, 2015; Murrar *et al.*, 2021), institution (Horchani, 2025), career stage (IOP Publishing, 2020, 2024), or perceived author fame (Clements, 2020c) when forming a critique of a given manuscript. Recognizing and checking these biases is the first step in minimizing them.

Focus on the forest, not the trees

Sometimes peer reviews are rife with many individual comments pointing out missing commas, spelling mistakes, and other grammatical errors or pedantisms (Thomson, 2020). Although proper grammar and punctuation are important in scientific writing, reviews consisting of a laundry list of grammatical errors can be cumbersome for authors (Purdue Online Writing Lab, 2025) and are often viewed as pedantic and over-the-top (Ruben, 2020). If you notice numerous grammatical errors while reviewing a manuscript, it is not necessary to point each and every one out to the authors. Instead, consider a single comment expressing that you noticed numerous grammatical errors, provide 2–3 examples, and encourage the authors to pay close attention to grammatical detail when revising their manuscript; copy editors will help with remaining errors should the manuscript be accepted. The focus of your review should be placed on more important aspects, such as scientific content and methodological rigour.

Write your review with proper etiquette

Sometimes, peer reviews pointing out grammatical mistakes and spelling errors are full of similar issues themselves, or are written with such haste that they consist of incomplete sentences and unfinished thoughts (Gerwing *et al.*, 2020). Such reviews are usually interpreted as hypocritical and can drive a wedge between authors and reviewers. While grammatical mistakes and spelling errors are not the end of the world, it is prudent for peer reviewers to provide comments in a

respectful manner, which includes using complete sentences and proper grammar.

Understand that writing styles are diverse

Like with grammatical issues, sometimes peer reviews contain comments directing authors to rewrite coherent sentences in a way that appeases the reviewer's preferred writing style (Heard, 2021). While such comments are appropriate when the text, as written, does not effectively relay the authors' intended message, reviewers should recognize that different authors have different writing styles and that just because a sentence or manuscript is not written how you would write it does not inherently make it bad. A constructive review will avoid asking the authors to change their writing style to align with the reviewer's, and will instead focus on thoughtful suggestions to enhance clarity and readability, taking care to explain your rationale and reason for suggesting a stylistic change.

Suggest references mindfully and provide full citations

Today's scientific literature is vast (Jinha, 2010; Hanson *et al.*, 2024). As such, it is unreasonable to expect authors to capture all citations for a given statement, and there is a high probability that the authors may not cite work you are aware of, even though it is applicable. In such instances, reviewers may be tempted to suggest references to work they know but that the authors have missed, and perhaps even more tempted to suggest that the authors cite the reviewer's own work on a given topic (Thombs *et al.*, 2015). Suggesting references should be approached with care, particularly when suggesting citations to your own work.

Constructive reviews will always 'suggest' references rather than 'require' them, and will keep these suggestions contained to unreferenced sentences that need referencing, or to text that the reviewer suggests the authors add, to address a shortcoming in the manuscript. For example, in the last sentence of our revised comment in the previous section (Tip 5), suggested references could be provided at the end of the comment. Reviewers should be mindful that excessive requests to cite their own work encompass a form of citation manipulation that should be avoided (IEEE Photonics Society, 2022, COPE, 2023). Finally, when suggesting references, be sure to provide full bibliographic details so that the authors can easily access, read, evaluate, and decide whether to include or exclude the suggested reference.

Provide positive comments when appropriate

The nature of peer review as a form of critique can often lead to a focus on shortcomings of submitted manuscripts rather than on what those manuscripts do well. Positive critiques of well-executed parts of manuscripts can be encouraging for

authors and provide motivation to consider the reviewer's comments fully and in a positive way, providing for a collegial peer review experience. Furthermore, identifying aspects that authors have done well can reinforce those behaviours in subsequent works, benefitting the scholarly literature and future peer review processes. Care should be taken, however, to not sway too far away from being critical—excessive emotive language, whether positive or negative, can affect the way authors respond to criticism and influence an editor's decision to reject or accept a manuscript in a potentially biased way (Baglini and Parsons, 2020; Parsons and Baglini, 2021). A constructive peer review will find balance between critical evaluation and praise to provide a fair and unbiased assessment of the work.

Submit your review on time, or request an extension from the editorial office

One common issue for editors is reviewers who accept invitations but do not submit their review on time (or at all), and do not communicate a need for extensions to editors. Being unable to meet a review deadline is certainly understandable—schedules fill up and peer reviews often take a back seat to other priorities. If you know *a priori* (i.e. when you receive a reviewer invitation) that you are unable to meet the required deadline, you can reply to the invitation and ask for a longer timeframe; otherwise, you can decline the invitation and, ideally, suggest some other reviewers for the editor to consider. If you have accepted a review and are unable to meet the deadline, simply notify the editorial office that you require extra time.

Consider signing your reviews, if comfortable

Most academic journals in the biological sciences anonymize reviewer identities to authors to permit honest reviewer feedback without fear of author retaliation (Horbach and Halfmann, 2018). In response to criticisms of this approach, some journals have implemented an open peer review model where reviewer identities are made known to the authors (Horbach and Halfmann, 2018; Henriquez, 2023). Indeed, some peer reviewers may feel comfortable making their identity known to the authors, and may prefer doing so in the interest of transparency and accountability (Moylean *et al.*, 2014; Fox, 2021). For journals with an anonymized review process, voluntarily signing peer reviews may provide an additional layer of incentivization to ensure a review remains collegial and constructive (Kiermer and Muddit, 2021; Aczel *et al.*, 2025). Signed reviews also present an opportunity to be recognized for your work as a peer reviewer (Henriquez, 2023).

Nonetheless, potentially beneficial outcomes must be carefully considered in the context of the implicit power structure of being a named peer reviewer. For example, one must be careful not to leverage this tactic to insert themselves as a co-author on manuscripts they review. Signing peer reviews

can also come with further drawbacks (Kiermer and Muddit, 2021; Aczel *et al.*, 2025), including being overly positive at the demise of critical evaluation (Baggs *et al.*, 2008) to avoid possible negative retaliation by the authors (Reghr and Bordages, 2006). Such a situation is perhaps most likely when ECRs or less-established reviewers evaluate work from high-profile researchers (Clements, 2020c). Ultimately, while voluntarily signing peer reviews can provide positive outcomes in some situations, reviewers should only sign reviews if comfortable doing so, and ensuring that signing does not compromise impartiality and rigour.

Use the 'confidential comments to the editor' field

In our collective experiences as editors for *Conservation Physiology* and other journals, many reviewers do not submit confidential comments to the editors, leaving the block blank in the manuscript-handling platform. This field may be used to convey information that should not be shared directly with the authors, such as concerns about research or publication ethics, poor language within the manuscript, and possible conflicts of interest or misconduct by the authors. In addition, although many journals, including *Conservation Physiology*, have checkboxes where reviewers can score aspects related to the quality of the work and writing, it is helpful to the editor if you provide additional comments to support your scores, particularly when you assign low scores. This section also allows you to provide the rationale for your recommended decision; you should provide additional information here when your recommendation is based on an aspect that is not appropriate to be mentioned directly to the authors, or not readily evident in your comments to the authors. Finally, it is important to keep in mind that all aspects of constructive reviews mentioned above still apply—the Confidential comments to the editor section is not meant to air frustrations in an unconstructive or unprofessional manner.

Closing remarks

In this editorial, we provide reviewers with tangible suggestions for crafting collegial and helpful comments to authors, and highlight key attributes of holistically constructive reviews. While these suggestions may seem obvious to most (indeed, the vast majority of peer reviews for *Conservation Physiology* are collegial and constructive), we hope that reviewers find this guidance insightful, particularly given the lack of formal training in peer reviewing. The difference between constructive and unconstructive reviews is measurable—constructive reviews increase author-reviewer cooperation toward a common goal (i.e. maximizing a manuscript's potential) and, in turn, increase the effectiveness of peer review and enhance the quality and accuracy of published research (Leek *et al.*, 2011). Moreover, unreasonably harsh and unconstructive reviews can have negative impacts on the mental health of academics at various career stages (Conroy,

2019; Clements, 2020a, 2020b). Ultimately, constructive reviews help to advance science while unconstructive, harsh reviews hinder it. At *Conservation Physiology*, we remain ever grateful for the valuable contributions of our peer reviewers, and we hope that this editorial provides helpful guidance for moving the field of conservation physiology, and science in general, forward.

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