

JOURNALS AND LIBRARY

Bridging the Referee Gap by Creating an Apprenticeship Editorial Board

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As senior editors of *Ecological Entomology*, we have come to realize that a younger generation of scientists needs to be recruited to assess whether manuscripts submitted for publication are scientifically sound. Since 2010, a worrying trend has become obvious: an excess demand for peer-reviewers has resulted in an untenable burden for everyone, but particularly for the ~20% of the researchers who consistently performed between 69% and 94% of the reviews (Kovanis et al., 2016). Such statistics should prompt our respective scientific communities to address this imbalance, which clearly looms as a significant impediment in the “quality control” of scientific inquiry.

To tackle this referee gap, the Editors-in-Chief for *Ecological Entomology* developed and are now implementing a new pedagogical approach whereby, through the creation of an “*Editorial Apprenticeship Program*”, graduate students and postdoctoral fellows can familiarize themselves with the multiple aspects inherent in any peer-review process. This program hopes to

help prepare and ultimately expand the *ad-hoc* referee pool. Although a similar call to include the participation of early career researchers exists (Casado 2018), the reality is that unless we, as established scientists, take on the mantle for targeting, educating and preparing our graduate student and/or postdoc populations on the significance of, and steps involved in, any review process, the referee gap issue will continue to worsen. A reduced pool of young scientists serving as *ad-hoc* referees has significant negative trickle-down consequences. First, a lack of future referees will surely affect the efficiency and speed with which journals publish manuscripts. Second, experienced referees help safeguard the quality and robustness of scientific inquiry and thus, the recruitment of young scientists plays an important role in our respective scientific communities. Unfortunately, young scientists receive little to no exposure to this important process during their professional development (Walker 2018). This apprentice program invites,

involves, trains, supervises and recognizes the participation of graduate students and postdocs as *ad-hoc* referees. This program, in our mind, is a worthwhile endeavor, representing a “win-win-win” situation for journals, young scientists and the future of science.

As a proof of concept, the Editors-in-Chief for *Ecological Entomology* received approval from the Royal Entomological Society (RES) and Wiley to run this apprenticeship as a pilot program. This “*Apprenticeship Editorial Board*” is comprised of graduate students and postdocs working under the supervision of our current Associate Editors. This approach required “buy-in” from our Associate Editors who committed themselves to oversee the review of their student(s), ensuring high quality reviews that provide constructive criticisms to the authors. We anticipate the “in-training” participants will benefit tremendously from experiencing and understanding the review process while engaging in it from “behind the scenes”; enhancing their critical reading skills and ultimately, becoming better authors themselves, potentially becoming future Associate Editors. Moreover, these new “ad-hoc referees in training” are current in their fields, they are well informed about recent literature and are shrewd when it comes to the latest analytical/statistical techniques. Hence, we foresee their reviews to be excellent contributions to the review process.

Expected outcomes

The development and implementation of the “*Apprenticeship Editorial Board*” has the potential for expanding the education and promotion opportunities of graduate students and postdocs into academic positions. Although the latter are not easily measurable outcomes, it is vital that

From an Editorial Apprentice



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“I am finding the experience as an apprentice to be invaluable as both a reviewer and submitting author. In addition to gaining confidence in my critical reading skills, I feel more confident that my feedback has value. This experience has also given me insight into the process that my own submissions will go through in the future. I believe it has helped refine my ability to identify and remedy weaknesses in my own writing and experimental methodology.”

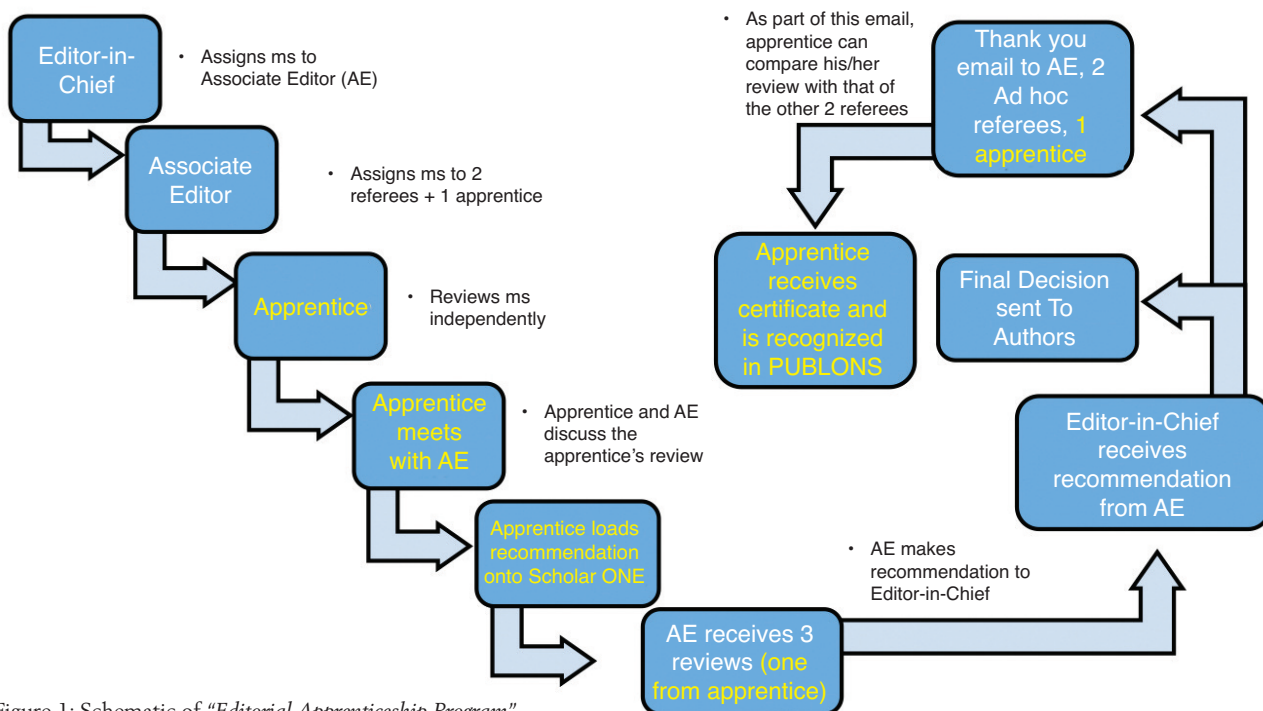


Figure 1: Schematic of “Editorial Apprenticeship Program”.

we, as researchers and educators, search for novel strategies to enlist a new generation of scientists into our ranks. As part of the implementation of the pilot program, a pre-assessment survey was conducted in which participants were asked to rate the following statements:

- I feel comfortable providing a review
- I have served as an official referee in the past
- In the past, I have reviewed manuscripts in concert with my supervisor
- How confident are you in your ability to contribute stylistic improvements to authors of submitted manuscripts?
- How confident are you in your ability to contribute and/or suggest scientific improvements to authors?
- How confident are you in your ability to provide statistical advice/suggestions to authors?
- How knowledgeable are you about the various steps /levels involved in the review process?
- How many articles have you co-authored as a first author?
- How many articles have you co-authored in which you were not the first author?

Apprentices will be asked to respond to a second survey one year into the program to quantify the effectiveness of this scheme (Figure 1).

Guidelines

Students on this apprenticeship board are expected to serve as third anonymous referees. Hence, at the end of the review process, every manuscript would receive three recommendations: two from our experts in the field (as is currently being done) and one from yet another expert, our grad student/postdoctoral apprentice.

The recruitment of our first apprentice cohort followed a multi-pronged process. First, we alerted the *Ecological Entomology* Associate Editors of the possibility for their students’ participation. Of the 20 Associate Editors, 11 responded in the affirmative and nominated 13 apprentices. The participants were then enrolled into

Scholar ONE, the platform that handles the submission and reviewing process for RES journals. From here, once the Editors-in-Chief assign a manuscript to an Associate Editor, the latter decides if the apprentice under their supervision can act as referee based on the apprentice’s area of expertise. The invited apprentice receives the same email and same time-frame to turn in a recommendation as that provided to our regular invited *ad-hoc* referees. In this way, we are not impacting the duration of our normal review process. We strongly believe that this personalized and “official” request to serve as an anonymous referee will go a long way in making our apprentices feel they are part of the

From an Editorial Apprentice



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“A lot of the time, when you are an early career scientist, your skills tend to be over-looked and subsequently not used to their full potential due to perceived inexperience. Being a part of this programme is refreshing as its core is about giving less experienced scientists training and an opportunity to prove themselves as competent researchers too.”

Emilie with a white-witch moth while in Costa Rica

“review team”. The expectation is that, initially, the Associate Editor will commit to supervise the review and recommendation of their apprentice until we ensure high quality reviews from our new participants. Once the students have “proven” themselves, we intend to emancipate them, decoupling them from their supervisor. From then on, *Ecological Entomology* will consider the apprentice’s feedback as a stand-alone recommendation.

Ecological Entomology recognizes that the apprentices are under significant time constraints and that their priority is to focus on their PhD or postdoc responsibilities. Hence, to avoid overloading participants, we are restricting the number of assigned manuscripts to no more than one concurrent manuscript and no more than three manuscripts in a year.

The implementation of this program required modifications to the Scholar ONE platform. Both the Royal Entomological Society and Wiley have been, and continue to be, strong supporters of this endeavour and have helped to ensure this novel scheme becomes automated as much as possible. In particular, we appreciate the help received from Ms. Sarah Laseke, our Editorial Assistant, in helping resolve some of the logistical issues prior to the programme’s inception.

This “*Apprenticeship Editorial Program*” represents a novel educational as well as a recruitment tool that involves our young scientists to join the ranks of our reviewers. The combined efforts from the Editors-in-Chief and Associate Editors of *Ecological Entomology*, together with the support of the Royal Entomological Society and Wiley, can bring about important benefits to everyone involved. We anticipate this scheme to be successful and hope it is expanded to other Royal Entomological Society journals.

From an Editorial Apprentice



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“I think this program is wonderful, and I hope other journals start following your lead.”

From an Editorial Apprentice



Dr. Patrícia Nunes-Silva
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“The material I’ve received has already helped me, by improving the way I conduct a review and also in my writing process. I’m looking forward to the next steps”

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