Sustainable Aquatic Research (2024) 3(1):1-4
DOI: 10.5281/zenodo.10890507
e-ISSN: 2822-4140

SUSTAINABLE AQUATIC RESEARCH
www.saquares.com

EDITORIAL NOTE

Where Have All the Good Editors Gone? - A Necessary Polemic

Christian E.W. Steinberg
Freshwater Ecology, Humboldt Universität zu Berlin, Germany
E-mail: christian_ew_steinberg@web.de, ORCID: https://orcid.org/0000-0002-3132-8901

Don't be afraid: America's greatest folksinger of all time, Pete Seeger ('Where have all the flowers gone?'), is not back as a zombie to critic aquaculture. It seems, however, that he was much more aware of the evolution of different human societies and cultures than many aquaculture editors are of the appearance and development of their journals.

In the new age, where a certain political elite has made alternative facts and fake news acceptable to the public, it is not surprising that strange papers appear even in highly ranked aquaculture journals: articles with fake bibliographies or missing or at least very poor identification of the organisms studied. They appear without any sanction or commentary and even pretend to be peer-reviewed. Who knows if results or even entire articles are homemade? Can we be sure that results or even entire articles are not just fabricated fairytales? Is it of any surprise that Open Access (OA) journals, including those from major publishers, do not fight these tendencies? Earning article processing charges appears to counts more than science! Where have all the good scientific editors gone?

In some subscription journals, and even more so in OA journals, you will miss the 'Letters to the Editor' section – usally a sign of the lively scientific life of a journal and the contest for the best interpretation of published results. Not so in many aquaculture journals. Which author wants to pay article processing fees in an OA journal for something intrinsic to science, namely discussing the results presented by colleagues? Discussion leads to paradigms being proposed and eventually recognized by a majority of scientists after academic pros and cons (Kuhn 2012). Do these journals believe that they are close to the absolute truth, like religions or communist and fascist ideologies, which not only don't need any discussion but actively suppress it? Where have all the good editors gone? And if they are still around, have they forgotten all about scientific education and good scientific practice?

One of the foundations of scientific work, which is clearly distinguished from esoteric homeopathic beliefs, is the traceability and reproducibility of studies from other laboratories. But how can this be guaranteed when dog (or cod) Latin terms are used for supplements of botanical preparations that are at best known regionally where the respective ethnopharmacy is applied, but are by no means in general use? Why do aquaculture journals not require the actual common scientific terms? This requirement is not a symptom of racism a la 'oppression of ethnic minorities' – it is the basis of scientific work and communication, which every scientific author should have learned in university. It contributes to the general understanding and acceptance of the more empirical science of aquaculture. Where have all the good editors gone?

Similar criticism applies when aquaculture and related journals, mainly OA journals, allow the use of product names instead of the usual, still rather superficial, characterization of the feed composition. This is simply advertisement and not science at all! Where have all the good editors gone?

Citation
Steinberg, C.E.W. (2024). Where Have All the Good Editors Gone? - A Necessary Polemic. Sustainable Aquatic Research, 3(1), 1-4.
Received: 16 March 2024, Accepted: 24 March 2024, Available online: 30 April 2024

If you believe the aquaculture journals, a Nile tilapia or any other farmed fish is the same all over the world. However, with breathtaking speed, epigenetic changes alter the phenotype during domestication, as recently summarized (Steinberg 2023). Studies of Nile tilapia provide evidence that such changes occur even within a single generation. Konstantinidis et al. (2020) showed that muscle DNA hydroxymethylation differs significantly between wild fish and their captive-bred offspring. Many differentially methylated sites are

associated with genes involved in muscle growth, immunity, autophagy, and diet response. This shows that phenotypic traits often related to domestic animals (e.g., higher growth rate and different immune status) may be regulated epigenetically (Podgorniak et al. 2022). The tilapia example should suffice to illustrate theinexcusable gap that is created when aquatic species are treated worldwide as a 'monolith' and the study material is not further characterized. With this mindset, many studies are not comparable, as was already mentioned more than a decade ago (Hua and Bureau 2012). Where have all the good editors gone?

When supplementing aquafeeds or replacing marine proteins and lipids with plant materials from traditional medicine, the 'scientific' justification is always that this has a long tradition in ethnopharmacy. Are the authors serious? Do they really think that fishes and shrimps are little humans? Or that humans are fishes or shrimps that have come ashore? Against this background, it is not surprising that most authors deliberately forget to test the supplemented ethnopharmaceuticals for ecotoxicity. After all, they have already been tested on humans. Where have all the good editors gone? This nonsense must stop!

Algae or fungi? When large inedible phytoplankton species, often filamentous cyanobacteria, are infected by chytrids, nutrients within the host cells are transferred to the zooplankton via zoospores (Kagami et al. 2014). This loop may be important in shaping aquatic food chains and may be used technically in the aquaculture industry to improve low-value aquatic lipid sources. Recent classification agrees that these organisms, the chytrids, are parasitic unicellular fungi (Adl et al. 2005), rather than algae, and later confirmed (Galindo et al. 2021; Thome et al. 2023). However, this does not impress the many authors, most of them from the aquaculture business, who continue to consider the various chytrids in aquafeeds as microalgae. But if such inaccuracies occur in these small things, what happens to the really important things? Where have all the good editors gone?

Crassostrea gigas or *Magallana gigas*? This species, or rather the scientists who study it, has a long history of persistence. Although there is convincing biomolecular evidence that the Atlantic and Pacific species groups do not have the same origin, i.e. do not belong to a single genus (Salvi and Mariottini 2017; Salvi and Mariottini 2021; Willan 2021), the Pacific oyster is still referred to as *Crassostrea gigas* in most recent papers and the battle for the old name continues (Backeljau 2018). Can persistence perhaps be translated as convenience or laziness? A clarifying word from the good editors could certainly help here.

Litopenaeus vannamei or *Penaeus vannamei*? The correct nomenclature has been, and still is, the subject of heated and not always objective debate. In the meantime, molecular taxonomy seems to have won the day (Hurzaid et al. 2020; Balasubramanian et al. 2021; Katneni et al. 2021) and the previous morphological split of the genus *Penaeus* by Pérez Farfante and Ken (1997) seems obsolete. Thirty-one splinters are now reunited in the genus *Penaeus* (Vance and Rothlisberg 2020) and the most cultivated shrimp species is *Penaeus vannamei*, rather than *Litopenaeus vannamei* (Figueredo et al. 2023).

Taxonomic revisions, however, are often influenced by methodological progress and subsequent acceptance or rejection, which can be based on personal rather than scientific arguments. This can make the animal objects appear like a hunted game, rather than an object of scientific studies.

In all cases, workers suffering from 'revision shock' have used non-taxonomic courses of action to express their dissidence by attempting to suppress the taxonomy of others (i.e., by recommending

avoidance, personal attacks, or omission, respectively) (Willan 2021). If these studies are already negligent in the selection and identification of their subjects, what can be expected in the actual experimental work to find something new? The same carelessness? Who knows!

Yet, the current nomenclature hullabaloo in aquaculture journals, exemplified by three examples, can be easily remedied if good editors would simply wake up or show up and specify which of the taxonomic databases authors must refer to if they want their paper processed or even accepted. This request does not impinge on scientific freedom; rather, it contributes significantly to scientific clarity, comprehensibility, and acceptance by the scientific community and the public, which is what we should all want. Where have all the good editors gone?

Now to conclude seriously, almost without any polemic. The concerns listed above are based on experiences with editors and journals while writing my *Aquatic Animal Nutrition* (Steinberg 2018, 2022) over the past 10 years, they are not homemade or fake, but are meant to stimulate discussion. Certainly, an editor cannot know all the issues of aquaculture or aquatic ecology. However, journals usually have several editors-in-chief, associate editors, or at least an editorial board of qualified scientists from different disciplines. These scientists can set scientific standards and requirements for manuscripts to be submitted. To overcome the nomenclature hullabaloo, taxonomic databases are available free of charge (my favorite taxonomic database is AlgaeBase, which uses beautiful phrasing: 'This name is of an entity that is currently accepted taxonomically' or 'This name is currently regarded as a synonym of...', indicating that taxonomy is a matter of opinion, not absolute truth). The editors only have to indicate which database for fishes, invertebrates, macrophytes or algae and microorganisms has to be consulted, as each journal mentions the style of references in detail. In addition, the animals, plants, and microorganisms to be studied must be identified at least to the species level, unless the genus is monospecific. Basic and applied ecology on the multi-species genus level is scientific nonsense, because different species within a genus can have contrasting ecological requirements – basic knowledge even for ecological freshmen. For probiotic microorganisms, even the strain used must be reported. The same is true for aquafeeds and supplements. Simply providing product names is not science, it is advertising.

To start or increase discussion in aquaculture journals, editors need only take a quick look at high-impact or multidisciplinary journals. Then all they have to do is add another category of article types, namely 'Letters to the Editor'.

I am convinced that good editors are still out there!

References

Adl SM, Simpson AGB, Farmer MA, Andersen RA, Anderson OR, Barta JR, Bowser SS, Brugerolle G, Fensome RA, Fredericq S, James TY, Karpov S, Kugrens P, Krug J, Lane CE, Lewis LA, Lodge J, Lynn DH, Mann DG, McCourt RM, Mendoza L, Moestrup Ø, Mozley-Standridge SE, Nerad TA, Shearer CA, Smirnov AV, Spiegel FW, Taylor MFJR (2005) The new higher level classification of eukaryotes with emphasis on the taxonomy of protists. J Eukaryot Microbiol 52 (5):399-451. https://doi.org/10.1111/j.1550-7408.2005.00053.x

Backeljau T (2018) *Crassostrea gigas* or *Magallana gigas*: A Community-based Scientific Response. National Shellfisheries Association Quarterly Newsletter 1:3. https://doi.org/https://shellfish.memberclicks.net/assets/docs/Current_Newsletters/qnl_2018_1.pdf

Balasubramanian CP, Katneni VK, Shekhar MS, Kumar JA, Vijayan KK (2021) Restoration of old genus name *Penaeus* based on molecular phylogenetic affiliations using complete mitochondrial genome. Curr Sci 121 (3):423-428. https://doi.org/10.18520/cs/v121/i3/423-428

Figueredo A, Lira C, Vera-Caripe J, De Donato M, Lodeiros C (2023) The Pacific white shrimp, the most cultivated shrimp species, is it *Litopenaeus* or *Penaeus vannamei*? Rev Aquacult 15 (1):7-13. https://doi.org/10.1111/raq.12725

Katneni VK, Shekhar MS, Jangam AK, Paran BC, Selvaraj A, Krishnan K, Kaikkolante N, Prabhudas SK, Gopalapillai G, Koyadan VK (2021) Phylogenetic relations and mitogenome-wide similarity metrics reveal monophyly of *Penaeus* sensu lato. Ecol Evol 11 (5):2040-2049. https://doi.org/10.1002/ece3.7148

Konstantinidis I, Sætrom P, Mjelle R, Nedoluzhko AV, Robledo D, Fernandes JMO (2020) Major gene expression changes and epigenetic remodelling in Nile tilapia muscle after just one generation of domestication. Epigenetics 15 (10):1052-1067. https://doi.org/10.1080/15592294.2020.1748914

Kuhn TS (2012) The Structure of Scientific Revolutions. 50th anniversary. 4th edn. University of Chicago Press,

Pérez Farfante I, Ken B (1997) Penaeoid and sergestoid shrimps and prawns of the world. Keys and diagnoses for the families and genera. Mem Mus Natl Hist Nat 175:1-233

Podgorniak T, Dhanasiri A, Chen X, Ren X, Kuan P-F, Fernandes J (2022) Early fish domestication affects methylation of key genes involved in the rapid onset of the farmed phenotype. Epigenetics 17 (10):1281-1298. https://doi.org/10.1080/15592294.2021.2017554

Salvi D, Mariottini P (2017) Molecular taxonomy in 2D: a novel ITS2 rRNA sequence-structure approach guides the description of the oysters' subfamily Saccostreinae and the genus *Magallana* (Bivalvia: Ostreidae). Zool J Linn Soc 179 (2):263-276. https://doi.org/10.1111/zoj.12455

Salvi D, Mariottini P (2021) Revision shock in Pacific oysters taxonomy: The genus *Magallana* (formerly *Crassostrea* in part) is well-founded and necessary. Zool J Linn Soc 192 (1):43-58. https://doi.org/10.1093/zoolinnean/zlaa112

Steinberg CEW (2018) Aquatic Animal Nutrition–A Mechanistic Perspective from Individuals to Generations. Springer Nature Switzerland AG, Cham, Switzerland. https://doi.org/10.1007/978-3-319-91767-2

Steinberg CEW (2022) Aquatic Animal Nutrition – Organic Macro- and Micro-Nutrients. Springer Nature Switzerland AG, Cham, Switzerland. https://doi.org/10.1007/978-3-030-87227-4

Steinberg CEW (2023) A Salmon is A Salmon. SAquaRes 2 (1). https://doi.org/10.5281/zenodo.7820847

Thome P, Wolinska J, Van den Wyngaert S, Reñé A, Ilicic D, Agha R, Grossart H-P, Garcés E, Monaghan M, Strassert J (2023) Phylogenomics including new sequence data of phytoplankton-infecting chytrids reveals multiple independent lifestyle transitions across the phylum. bioRxiv. https://doi.org/10.1101/2023.06.28.546836

Vance DJ, Rothlisberg PC (2020) The biology and ecology of the banana prawns: *Penaeus merguiensis* de Man and *P. indicus* H. Milne Edwards. In: Sheppard C (ed) Advances in Marine Biology, vol 86. Academic Press, pp 1-139. https://doi.org/10.1016/bs.amb.2020.04.001

Willan RC (2021) *Magallana* or mayhem? Molluscan Res 41 (1):75-79. https://doi.org/10.1080/13235818.2020.1865514