The ICES Journal of Marine Science (ICES JMS) strives to advance marine science by making judicious use of themed article sets (TSs). TS's are series of coordinated contributions – introduced by a synthetic overview - on a selected topic. Both individually and collectively, TSs are instrumental in focusing attention, triggering opinions and stimulating ideas, discussion and activity in specific research fields.

We invite you to participate in a TS on: ***Patterns of biodiversity of marine zooplankton based on molecular analysis*.**

Marine zooplankton are key players in pelagic food webs, central links in ecosystem function, and useful indicators as rapid responders to environmental variation and climate change. Characterization of biodiversity of the marine zooplankton assemblage is complicated by many factors, including the systematic complexity of the assemblage; presence of cryptic, rare, and novel species; and high local-to-global ratios of species diversity. Molecular approaches, including DNA barcoding and metabarcoding, are providing important new insights into the 'hidden diversity' of marine zooplankton.

A compelling question driving development of new genetic and genomic tools for characterization of zooplankton biodiversity is that the number of species occurring in the pelagic realm remains unknown. Metabarcoding is expected to increase estimates of marine zooplankton biodiversity dramatically, although recent studies differ in these estimations by several orders of magnitude.

The objective of this TS is to bring together contributions on the broad theme of revisiting the biodiversity of marine zooplankton based on novel molecular approaches. We welcome contributions on the following topics, among others:

- biodiversity, biogeography, and trophic dynamics of marine zooplankton
- best practices for barcoding and metabarcoding analysis
- progress toward and use of DNA sequence reference databases
- discovery, detection, and functional importance of rare and cryptic species

We particularly encourage submission of papers that explore and interpret results from novel molecular approaches, as well as those that offer assessment of the promise and pitfalls of DNA-based analysis of marine zooplankton biodiversity. An important and overarching question that remains is the actual number of species in the marine zooplankton assemblage.

You are welcome to invite colleagues to co-author your contribution and to circulate this invitation to anyone who you think would be interested in contributing.

In addition to original research articles, contributions can take the form of a review, a "Food for Thought" essay in which you present a thought-provoking or controversial issue, or a "Quo Vadimus" essay in which you describe what you see as the future of the field, question or issue. Manuscripts should be prepared following the technical guidelines that can be found on the ICES JMS web site and should be submitted following the standard procedure. Please state in your cover letter that the article is intended for inclusion in this TS. Manuscripts will be subjected to the standard ICES JMS review process, overseen and coordinated by the Journal's senior editorial staff.

Publication of TSs occurs on a "build as it goes" basis; articles will normally appear online within 4-5 weeks of their acceptance in final form. That means that publication of the first article accepted will not be delayed by the last article accepted.

The deadline for submissions is **11 January 2021**.

You can also submit at any time before the deadline (your article will be published online as soon as it is finalized –it will not be held back until the TS is complete).

We would appreciate receiving an indication of your interest in contributing at your earliest convenience. We hope that you will accept this invitation and look forward to hearing from you.

Yours sincerely,

Howard I. Browman
Editor-in-Chief

Ann Bucklin, Ryuji Machida, Katja Peijnenburg, and Ksenia Kosobokova
Themed Set motivators