



## Megataxa for big science questions in taxonomy

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I am delighted to announce the inaugural issue of *Megataxa*, a new journal designed for large monographic reviews and highly significant original papers reporting major advances in taxonomy. *Megataxa* aims to be a premium journal of high impact to encourage most important works in taxonomy. As a general journal of taxonomy, *Megataxa* will also include an editorial/correspondence section to allow announcements of major news, debates of highly significant issues, theory/method papers of general taxonomic significance, and biographic profiles for recently passed eminent taxonomists.

*Megataxa* will focus particularly on big science questions in biology that are taxonomic in nature and essence. Like its sister journals, *Zootaxa* and *Phytotaxa*, *Megataxa* strives to accelerate the documentation of undescribed species (Christenhusz *et al.* 2009; Zhang *et al.* 2011) in this age of rapid extinction (Barnosky *et al.* 2011; Ceballos *et al.* 2015). It will increase efficiency by encouraging collaborative teamwork at a large scale to take advantage of economies of scale. From the outset, *Megataxa* will feature two series of mega-papers with the main titles “Toward a million new species” and “All genera of the world”.

“Toward a million new species” will accept large collaborative papers having at least 100 new species each, with a focus on hyper-rich taxa such as invertebrates and fungi (e.g. Lumbsch *et al.* 2011). Communities of taxonomists can propose large projects to be published in this series. It will also accept large papers describing over 100 new species by individual authors or small teams.

The “All genera of the world” series invites large manuscripts each with a full list of all genera of a large taxon in a currently accepted consensus higher classification, including species richness, type species and synonyms (if any) of each genus. These can be by individual authors or a large team; the latter is preferred as it allows participation of many taxonomists and can be completed faster. This series will provide foundations for a full inventory of life on earth.

In preparation for this inaugural issue, I asked 22 taxonomists what they think are the top three questions or challenges in taxonomy today. These taxonomists represent a broad range of backgrounds: a young graduate student and several retired professors, taxonomists from both developed and developing countries, and specialists working on a diversity of taxa (e.g. fungi, plants, annelids, crustaceans, myriapods, spiders, wasps, flies, hemipterans, reptiles, and amphibians). This inaugural issue presents a collection of 15 papers on the top three questions/challenges in taxonomy from their perspective. In addition to the urgent task of describing new species and completing a full inventory of life on earth (Orr *et al.* 2020; Lücking 2020; Prathapan & Rajan 2020; Wheeler 2020), many authors agreed on the importance of developing taxonomic capacity through training and mentoring future generations of taxonomists—especially in biodiversity-rich developing countries (Borkent 2020; Britz *et al.* 2020; Coleman & Radulovici 2020; Hutchings 2020; Orr *et al.* 2020; Prathapan & Rajan 2020)—as well as the urgent need to address the decline in funding for taxonomy and the loss of taxonomic positions in museums, universities, and other institutions (Borkent 2020; Britz *et al.* 2020; Dupérré 2020; Hutchings 2020). For taxonomy to thrive, it is important to integrate traditional taxonomy with other branches of modern science and technology, e.g. molecular biology, information science, big data/AI, engineering, entrepreneurialism (Borkent 2020; Boxshall 2020; Longino 2020; Lücking 2020; Orr *et al.* 2020; Saunders 2020; Vences 2020; Wheeler 2020). It is necessary to redefine taxonomy and communicate its values to the broader society (Borkent 2020; Boxshall 2020; Christenhusz 2020; Dupérré 2020; Hutchings 2020; Lücking 2020; Saunders 2020; Wheeler 2020). Several authors also emphasised an urgent need to revise nomenclatural rules to deal with provisionally circumscribed taxa (Minelli 2020), cryptic diversity (Longino 2020), descriptions based on molecular data (Dupérré 2020), and stable nomenclature for phylogenetic

classification (Christenhusz 2020). Other important issues discussed include developing and maintaining taxonomic databases (Boxshall 2020; Coleman & Radulovici 2020; Prathapan & Rajan 2020), pluralism in taxonomy (Minelli 2020), the impact of extinction (Borkent 2020), species concepts and delimiting/naming species (Christenhusz 2020; Longino 2020), and the negative effects of Nagoya Protocol and permits (Britz *et al.* 2020; Lücking 2020; Prathapan & Rajan 2020).

*Megataxa* will be linked with a new international, yet to be named society (e.g. “International Union of Taxonomists”) whose mission will be to promote taxonomy, facilitate collaboration among taxonomists, and increase the impact of taxonomy. Membership is via in-kind contributions as authors, reviewers, and editors of the journal. Others can participate via in-kind support or the payment of a membership fee. *Megataxa* is a sister journal of *Zootaxa* and *Phytotaxa* and will allow manuscript transfer to and from each of these journals. It will be published in a continuous model as *Zootaxa* and *Phytotaxa* (Zhang 2014). *Megataxa* is a GOLD open access journal with free online access for all. Author contributions of a publication processing fee are needed for publication, but discounts will be provided to authors in need and waivers granted for those without funds on a case-by-case basis.

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