

Editorial—A decade of the *Cambodian Journal of Natural History*, the Kingdom's first peer-reviewed science journal

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Launched in 2008, the *Cambodian Journal of Natural History* witnessed its first decade of continuous publication last year. The original idea for creating a national science journal sprang from the realisation that while a great deal of research had been conducted in Cambodia over the previous decade, very little of this work was available to other scientists or decision makers in the country (Daltry, 2008). Since its launch, 18 issues of the journal have been produced, with two issues published in most years (typically June and December). In this editorial, we look back at the journal's output over the years and consider whether it still serves a useful purpose in Cambodia.

Not counting the 223 conference abstracts published in a special issue in 2015, 230 articles comprising 1,230 pages of material appeared in the journal between 2008 and 2017 (Table 1). Almost half (49%) of these articles comprised short communications and full papers which were peer reviewed by at least two recognised experts in the relevant fields, whereas the remainder comprised non-peer reviewed articles including MSc thesis abstracts (28%), news articles (10%), editorial pieces (7%), recent literature reviews (5%) and letters (1%). In recent years, 27–30 articles appeared in the journal each year.

Unlike many peer-reviewed journals that seek to maximize their impact factor (the average number of citations received by an article in a given year) above all else, the primary mission of the journal has always been to encourage and enable environmental scientists in Cambodia to share their findings and address the critical need for reliable information on the conservation status and management requirements of Cambodian biodiversity. This is reflected in our editorial approach which

seeks to coach early-career scientists to develop their writing skills and bring their findings to a wide audience. Evidence also suggests that peer-reviewed periodicals play a pivotal role in promoting decision-maker's recognition of the importance of conservation and biodiversity for sustainable economic growth (Walther *et al.* 2016). Importantly, unlike many peer-reviewed journals, the journal does not charge reader or author fees, relying solely upon the generosity of sponsors for its publication and distribution to ensure as many people as possible have access.

As an intended consequence of supporting Cambodian scientists, these were the lead (first) authors of 44% of the 230 articles published between 2008 and 2017. Almost half of the 230 papers were single-author articles (48%), whereas 39% had multiple authors and 13% had two authors. This suggests that the journal has been successful in its mission to some extent, but also that more could be done. Approximately one third of all authors in the same period were female. While this proportion seems to reflect the global gender disparity in high-quality research, it is considerably higher than the average of 19.8% reported for Asia (Bendels *et al.*, 2018). This is remarkable for Cambodia, where women tend to be under-represented in biodiversity conservation jobs and have fewer opportunities for higher education. A similar number of authors gave their main place of work as an international NGO (30%) or a higher education institution, research institute or museum overseas (29%). Higher education institutions and government agencies in Cambodia represented the lead institution for a further 20% and 10% of authors respectively, whereas

Table 1 Articles published in the *Cambodian Journal of Natural History*, 2008–2017.

Year/ No. of issues	Editorials	Letters	News	Short communications	Full papers	MSc abstracts	Recent literature	Total
2008/1	1	0	1	1	2	0	0	5
2009/1	1	0	0	1	4	6	0	12
2010/2	2	2	1	9	6	6	2	28
2011/2	2	0	2	5	11	12	2	34
2012/2	2	0	0	6	10	5	2	25
2013/2	2	0	4	2	7	11	2	28
2014/1	1	0	0	5	4	0	0	10
2015/2 ¹	2	0	4	5	4	15	1	31
2016/2	2	0	6	7	7	3	2	27
2017/2	2	0	4	6	11	6	1	30
Total	17	2	22	47	66	64	12	230

¹ Excludes 223 conference abstracts published in the first issue of 2015.

the remainder were independent (6%) or hailed from Cambodian NGOs (3%).

The credibility of the journal as an open-access platform for environmental science and evidence-based decision-making is reflected in its recent inclusion on the ASEAN Citation Index (<https://www.asean-cites.org/>) and unsolicited testimonials submitted by government agencies. To date, the journal remains the only Cambodian periodical currently recognised by a peer-reviewed journal index and so could serve as a model for other Cambodian journals to follow. The journal's significance is also reflected in a recent study that demonstrated conservation practitioners and researchers in developing countries obtain most of their information from open-access journals and do not choose journals based on impact factor (Gossa *et al.*, 2014).

So what influence has the journal had on our understanding of Cambodian biodiversity? While difficult to gauge quantitatively, 179 (78%) of articles to date have concerned a specific ecosystem or environment. Not surprisingly, most of these focused on forest (55%) and freshwater (25%) ecosystems, followed by marine (11%), grassland (5%) and agricultural (4%) environments. Of the 168 articles (73%) that concerned a specific taxonomic group, most focussed on plants (20%), followed closely by large mammals (18%), birds (15%), invertebrates (15%), reptiles (12%), small mammals (11%), fish (5%) and amphibians (3%). The range of topics covered has also been broad, including new distribution records, taxonomic assessments, ecological studies and conservation status reviews. Consequently, it might be said that

the journal has played an important role in documenting the composition, ecology and conservation status of Cambodia's ecosystems and wildlife.

Yet the journal's contributions clearly go beyond this. For example, a recent article provided much-needed clarification of nation-wide changes in the governance structure of protected areas (Souter *et al.*, 2016), whereas the present issue includes a paper that provides a rare insight into compliance issues with natural resource laws in a marine environment (Roig-Boixeda *et al.*, 2018). One-fifth of articles in the journal over the last decade have focussed on topics such as natural resource management and use, protected area management and environmental education and while the conservation sector may have a poor record for translating research findings into action (Gossa *et al.*, 2014), the fact remains that the lessons gained from such studies can greatly inform and measure its effectiveness.

Recognizing the need for further improvements to the journal, we took actions this year to diversify the scientific disciplines represented on the journal's international editorial board. The board was largely revised as a result (current members are listed on the inside cover page of the present issue) and we thank all former board members for their support. Allied to this, a new website hosted by the Royal University of Phnom Penh was created for the journal (<http://rupp.edu.kh/cjnh>), which includes facilities for downloading individual articles alongside specific issues. While all issues of the journal have long been freely available online, we are also seeking to include the journal on additional biblio-

graphic databases to improve its archiving and future accessibility to readers.

Looking forwards, the enormous changes taking place throughout Cambodia and complex challenges facing decision makers and stakeholders at all levels mean that access to reliable information on the status, use and management of biodiversity is needed more than ever. We remain conscious that much important research in Cambodia can still be found only in donor reports or expensive journals which are generally unavailable to local scientists and decision makers, or worse still, remains unpublished in personal or institutional databases and files. To mark the journal's first decade of publication, we are now seeking funding to assist early-career conservationists in Cambodia to make such datasets available through a series of mentoring workshops on scientific-publishing and would be delighted to hear from any organizations or individuals interested in participating.

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