

They're writing a *Nature* paper!

IT WAS John Lawton, I think, who many years ago referred to a tendency of researchers to respond to a question about their research interests with a detailed description of the complex analyses they intended to apply to their data. Sadly, the points of real interest — the organisms they worked on and why they felt the work mattered — were buried under the sediment of statistical sophistication. Such answers still occur, but in my experience they are often replaced by mention of the journal in which the work was (or is hoped to be) published, or citation statistics about the impact of a publication. A typical exchange might be: 'What is x's group working on at the moment?' 'It's pretty exciting — they're working on a *Nature* paper. They've involved y, whose papers routinely receive over 100 citations, so it's going to be big.' Of course, one is pleased for x's group — if the grand plan comes off — but what exactly are they writing about and why is this topic big news? This growing tendency to spout a journal name or 'citation potential' instead of discussing the work puts the focus on the social context of doing science rather than the findings.

The consequences of fussing about the journal a paper appears in, despite the empirical evidence that it is a poor measure of a paper's quality (e.g., Seglen 1997; Bloch and Walter 2001; Adler *et al.* 2008), can be deleterious for conservation outcomes. Meffe (2006), then editor of *Conservation Biology*, explained that to be accepted in that journal papers had to be excellent scientifically, novel, of broad appeal and making a significant advance. He also acknowledged that papers might be 'critical', 'important' or 'breakthrough' from a conservation perspective, but still would not be accepted for *Conservation Biology* if they lacked novelty or broad appeal. Far from denigrating such papers, he recommended that they be published in other journals where they would make a significant contribution to conservation. However, scientists concerned only with publishing in top journals could interpret Meffe's comments as indicating that only novel projects of broad appeal should be studied, or at least published. Thus some of the work that Meffe called 'critical', 'important' or 'breakthrough', would not reach the wider conservation community. More recently, Buéla-Casal and Zych's (2012) survey of 1 704 scientists from 86 countries found that they were generally neutral in their assessment of the Thomson Reuter's journal impact factor as a measure of quality, although respondents were more positive about the impact factor if it was used to rank research

performance in their own countries. Furthermore, more highly published authors had a lower respect for the impact factor. Parker *et al.* (2013), in a study of the work of highly cited scientists, noted: '... the importance of publishing in germane rather than elite venues for having others use one's research'. Clearly, the status of a journal is not everything — choosing an appropriate journal is more important in ensuring effective dissemination.

Concern with citations is the second part of the 'impact/quality' equation. While ranking scientists or journals on the basis of their citation performance is common, far less attention is given to the demonstrated weaknesses of citation analysis. Problems include incomplete or biased citing of influences, a preference for secondary sources and relegation of informal influences to uncredited acknowledgements, disciplinary variations in citation rates, traditional non-citation of sources (for example, low citations for taxonomic papers), and errors and selectivity in the major databases (for reviews see MacRoberts and MacRoberts 1996, 2010 — and yes, I am aware that citing reviews here illustrates that propensity to cite secondary sources). It is convenient for those focused on citations to ignore these problems, or to forget the significant sentences buried mid-paragraph in Hirsch's (2005) proposal for his citation-based *h* index: 'Although I argue that a high *h* is a reliable indicator of high accomplishment, the converse is not necessarily always true. There is considerable variation in the skewness of citation distributions even within a given subfield, and for an author with a relatively low *h* that has a few seminal papers with extraordinarily high citation counts, the *h* index will not fully reflect that scientist's accomplishments. Conversely, a scientist with a high *h* achieved mostly through papers with many coauthors would be treated overly kindly by his or her *h*.' Low citations need not mean poor work, a poor scientist or a poor journal.

Of course, I do not wish to argue against submitting one's work to a top journal if the work is appropriate to the editorial guidelines of that journal and the intended readership, nor do I mean to imply that citations tell us nothing about the significance of a paper or a journal. What I do wish to reiterate is that there is empirical evidence that work should go to the most appropriate journal, judging a paper by the journal in which it appears is poor practice, and low citation performance need not indicate a weak paper. If those points are accepted,

perhaps conservation biology can avoid Lawrence's (2007) lament regarding biomedical science: '...over the last twenty years a scientist's primary aim has been downgraded from doing science to producing papers and contriving to get them into the "best" journals' (Lawrence 2007). Focusing on the science rather than the journal or the paper's 'citation potential' also means that one will describe the work, not the journal or citations, when asked about recent research activity. Talking about journals and citations focuses on the social environment of research. Talking about the work puts the focus on conservation, where it belongs.

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