

*Oxford Forestry Institute, University of Oxford,
Oxford OX1 3RB, UK

†Department of Geography, University of
Cambridge, Cambridge CB2 3EN, UK

‡Embrapa Amazônia Oriental, CEP:66.005 100,
Belém, Pará, Brazil

1. Gullison, R. E., Rice, R. E. & Blundell, A. G. *Nature* **404**, 923–924 (2000).
2. Snook, L. K. & MacLellan, A. *Bot. J. Linn. Soc.* **122**, 35–46 (1996).
3. Verissimo, A., Barreto, P., Tarifa, R. & Uhl, C. *Forest Ecol. Mgmt* **72**, 39–60 (1995).
4. Styles, B. T. in *Flora Neotropica Monograph* (eds Pennington, T. D., Styles, B. T. & Taylor, D. A. H.) 389–406 (New York Botanic Garden, New York, 1981).
5. Mayhew, J. E. & Newton, A. C. *The Silviculture of Mahogany* (CAB International, Wallingford, 1998).
6. Neill, D. A. & Ravelo, N. in *The Genus Inga Utilization* (eds Pennington, T. D. & Fernandes, E. C. M.) 141–150 (Royal Botanic Gardens Kew, London, 1998).
7. Rodan, B. D., Newton, A. C. & Verissimo, A. *Environ. Conserv.* **19**, 331–342 (1992).
8. Chapin, M. in *From Principles to Practice: Indigenous Peoples and Biodiversity Conservation in Latin America* (eds Gray, A., Parellada, A. & Newing, H.) 240–278 (IWIGA, Copenhagen, 1998).

Impact factors aren't relevant to taxonomy

Sir — Evaluating research by means of ISI impact factors — those determined by the Institute for Scientific Information in Philadelphia — gives rise to obvious problems in the case of basic biodiversity research. Valdecasas *et al.* in *Correspondence* (*Nature* **403**, 698; 2000) suggested that one cause is the low citation rate of taxonomic articles compared to other fields.

A more important reason, however, is the inapplicability of this index to basic biodiversity research on principle.

The impact factor generally underestimates the number of citations because of the limited number of scanned journals. In fields such as molecular genetics, neuroscience or cancer research — where, as Bradford's law states, most of the relevant work is published in a few core journals — this selection does not severely affect the comparability of impact factors.

However, Bradford's law does not apply to taxonomy and other areas of basic biodiversity research. Generally, taxonomic papers contain details of nomenclature, which must be considered and discussed whether the paper is excellent or poor. Similarly, reports of flora and fauna records need to be debated in further studies before being accepted or rejected. Quality and relevance are independent parameters.

Therefore, it is impossible to classify taxonomic or ecology journals as more or less important. They can only be classified as of high or low quality, which does not affect the number of citations. Many natural history journals contain taxonomic or similar articles. The library of London's Natural History Museum alone holds 11,000 serial titles,

most of which come under this category, and each may contain relevant information.

About 1,000 entomological journals are held by the Natural History Museum's entomology library, but only 65 are covered by the expanded Science Citation Index (SCI). Because some 93 per cent of potentially relevant journals are not considered, it is good luck rather than a sign of good quality to be included in the SCI.

The impact factor is a powerful and welcome tool in some disciplines. In basic biodiversity research, however, it is not applicable. Qualified referees must evaluate the scientific work itself.

Frank-Thorsten Krell

*Entomology Department, Natural History Museum,
Cromwell Road, London SW3 5BD, UK*

We have moral authority to apologize for the past