Seeing the wood for the trees

New journals are welcomed in rapidly changing disciplines, but — as Internet resources grow — many reviewers say we'd be better off saving the paper.

Journal of Optics A: Pure and Applied Optics

Editor-in-chief M. Bertolotti

Institute of Physics. 6/yr.

North America \$693, elsewhere £350

Journal of Optics B: Quantum and Semiclassical Optics

Editor-in-chief E. Arimondo

Institute of Physics. 6/yr.

North America \$573, elsewhere £289

Mark Saffman

While scientists love to argue, the proliferation of scientific journals is a topic that generates much consensus. The vast majority of my colleagues seem to agree that the number of journals is both too large and growing too rapidly. Besides the burdens that unchecked growth presents to economically pressed research libraries, the time spent by individual researchers in monitoring a large number of publications to keep abreast of developments in their field is of great concern.

A quick check of the list of journals with "optics" in the title in one form or another, available in print or electronically at my institution, resulted in 35 hits. It is therefore cause for some optimism when competing journals merge, with the goal of emphasizing quality, not quantity. *Journal of Optics A: Pure and Applied Optics* appeared in January 1999 as a merger of *Journal of Optics* (formerly *Nouvelle Revue d'Optique*) and *Pure and Applied Optics*. *Journal of Optics B: Quantum and Semiclassical Optics* is a relaunching of *Quantum and Semiclassical Optics* under a new title. *Journal of Optics* is now the official organ of the European Optical Society, published by the Institute of Physics in the UK.

DAVID NEWTON

It can be no secret that the intention is to launch a strong European competitor to *The Journal of the Optical Society of America, A and B*, which is second to none in terms of quality and prestige in the worldwide optics literature. Since optics research in Europe in no way lags behind that in North America, it is appropriate for the European optics community to publish its own flagship journal.

Although *Journal of Optics* has been published in its present form for less than a year, it is already a big success. It is attracting a large volume of high-quality work, although part B has had more success in securing long, fundamentally significant contributions than part A, which has an undue proportion of shorter, very specialized papers. Both parts are available in print and electronically.

In comparison with *The Journal of the Optical Society of America*, on the other hand, *Journal of Optics* lags significantly in securing truly important new research results. This is no surprise given the journal's tender age. If the new journals continue to emphasize high editorial standards, the American and European journals are likely to attain a more equal footing in the future. □

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By the people, for the people

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Evolutionary Ecology Research

Editor-in-chief Michael L. Rosenzweig

Evolutionary Ecology. 8/yr. \$272

(institutional, online), \$305 (online plus print); \$33 (individual, affiliated to an institution), \$125 (non-affiliated individual)

Peter McGregor

The publication of original research articles involves an uneasy alliance between academics and publishers, because the academics' aim of maximizing dissemination rarely equates with the publishers' aim of maximizing profits. But times change. Academics now have desktop technology to publish without the help of publishers. Add the distributing power of the Internet and conditions are ripe for the emergence of new journals such as *Evolutionary Ecology Research*.

This journal, owned and run by academics, aims to have liberal dissemination rules and to publish as inexpensively as possible.

These aims seem to have been met. Authors retain copyright and Internet access to articles is rather open. The annual library subscription includes hard copy (about 1,000 pages) and the Internet edition. This seems excellent value, given that the publishers' journal that spawned it, *Evolutionary Ecology*, costs libraries \$777. Curiously, individual subscription costs are similar for the two unless the person's institution subscribes.

But price isn't everything. Quality is hard to assess, but authors generally submit their best research to the journal with the highest citation rating and shortest submission-to-appearance time. These two features often replace cost as determinants of journals that, from an academic's perspective, must be in the library. It is not easy to predict how the citation rating and publication times of academics' journals will compete with those of journals backed by publishing conglomerates. As a consequence, many will closely monitor the co-evolution of *Evolutionary Ecology Research* and its competitors. □

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Pulling the wings off flies

Animal Cognition

Chief editor Tatiana Czeschlik
Springer. 4/yr. \$324, DM496

T. S. Collett

Although its current practitioners might demur, animal cognition has a pedigree going back to at least the nineteenth century, when George Romanes collected

interesting, though perhaps not always reliable, accounts of the intelligent behaviour of members of the animal kingdom. To give an example from Romanes' *Animal Intelligence* (Kegan Paul, 1882): "I here found a robber wasp busied in lifting from the ground a large fly ... It had scarcely raised its prey a few inches above the ground when the wind caught the wings of the dead fly and they began to act like a sail. The wasp ... was blown ... in the direction of the wind, whereupon it let itself fall to the ground ... With eager industry [it] pulled off with its teeth the fly's wings which hindered it in its object. When this was quite done it seized the fly and flew off with it untroubled on its

journey through the air." Advances in ethology, psychology and neuroscience have since put animal cognition on a more rigorous footing, and have given its practitioners a new confidence.

With clever design, it is now possible to answer questions that a few years ago it would have seemed foolhardy even to ask. For instance, do monkeys that successfully use a tool have insight into how it functions? And cognitive concepts are becoming better grounded. Neuroscientists unravelling the mechanisms underlying ever more complex cognitive processes are finding seemingly comprehensible correlations between cognitive processes and neural circuits.

The subject is certainly worth a journal of its own. A laudable feature of *Animal Cognition* is its coverage of cognitive questions across a wide range of species. This should encourage cross-fertilization of work from very different intellectual traditions.

Perhaps the major problem for this new venture is the presence of several well-established journals which already publish papers in this field. How might an editor persuade authors to switch their allegiance to a new journal? First, offer rapid, rigorous and supportive reviewing, followed by speedy publication (*Animal Cognition* seems average). Low personal and library subscriptions (not obviously a Springer policy) will also increase a journal's readership and so its attraction to authors. Other ways of raising its profile are to have guest editors organize special issues, and to give the journal a tutorial as well as an archival function by inviting topical reviews (*Animal Cognition* encourages a nice mix of reviews and theoretical and empirical studies). The impressive and diverse editorial board augurs well for a forward-looking editorial policy. □

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Smell, taste and other hot topics

Chemoecology

Editors-in-chief Désiré Dalose and Jacques M. Pasteels
Birkhauser. 4/yr. \$264, SFr368
(institutional); SFr158 (personal)

Tristram D. Wyatt

Frogs whose skin secretions are used to make poison arrows; chemical battles for niches on coral reefs; arms races by plants against herbivores and each other; the use of pheromones to attract mates — these are all aspects of chemical ecology, an important topic that is coming of age.

Researchers now have a much greater

understanding than in the past of the importance of chemically mediated interactions, including those of taste and smell, throughout the field of biology. This has happened in part because techniques of chemical analysis and synthesis have improved, but it is also because more biologists are now linking chemical ecology to interesting and more fundamental behavioural, ecological and evolutionary interactions.

Chemoecology aims to cover these interactions. It was relaunched in 1998, with new editors but an unbroken series of volume numbers. The first new volume covers a wide range of organisms, with a good balance between those of land and sea, but there is a preponderance of insects and plants (only one vertebrate paper out of 25). I imagine that this will change over future issues. The journal publishes a relatively small number of pages (200) per year, compared with about 10 times more than this published by the other main journal in the field, *Journal of Chemical Ecology*.

There is room for two journals in the field as it continues to grow. *Chemoecology* could have its greatest influence if it can increase the number of mini-reviews it carries, particularly if these integrate studies of diverse taxa, vertebrate and invertebrate and if, as the editors intend, the journal becomes a forum for current debates.

Chemically mediated systems can offer unique opportunities for researchers to investigate hot evolutionary topics, for example in sexual selection and the evolution of mate communication.

Paradoxically, as chemical ecology becomes more mainstream, the challenge for journals like *Chemoecology* is to attract authors from higher-impact evolution and ecology journals. An important factor will be the likelihood of articles being found by online electronic searches. *Chemoecology* appears in many abstracting services but is not yet in *Current Contents*, so in this area it still has some way to go. □

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Complex issues in a specialist field

Advances in Complex Systems

Editor-in-chief Eric Bonabeau
Editions Hermès. 4/yr. Europe FF1,050, elsewhere FF1,250 (institutional); Europe FF682.50, elsewhere FF812.50 (personal)

H. Eugene Stanley

Another new journal? When virtually every paper is now deposited in preprint form on servers that are accessible by everyone: rich