

Préface

Deux sommités internationales en matière de systématique et d'écologie des eaux douces ont accepté, avec beaucoup de gentillesse eu égard à leur emploi du temps surchargé, de préfacier la revue EPHEMERA.

Nous les avons sollicitées en particulier parce qu'il s'agit de «généralistes» dans leur thématique et non pas de «spécialistes» de l'étude des Ephéméroptères, ce qui nous a paru apporter une vision d'ensemble -et partant une caution scientifique- plus larges pour l'avenir de la revue.

Le comité de rédaction est heureux de les remercier pour cette importante marque de confiance.

Starting a new scientific journal is a real challenge today when most university libraries experience reduced funding as the same time as subscription fees rise steadily. At least at my own university the list of available periodicals is reduced every now and then, and the trend is clear that the narrower subjects will pay the bills.

Strangely enough, entomology tends to be a narrow subject in spite of the enormous insect diversity facing us, and when reduced to the aquatic aspects even more narrow. So, starting a new journal delimited to mayfly biology is really a challenge; to be met only by the brave.

The Swedish name for mayflies (dagsländor) reflects the short lifespan of the adults, supposed to live only for one day, just like the French «éphémères». Lets hope that the new journal will have a long life in spite of this connection and the hard economical times. Mayflies are really a kind of survivors, it being a mystery that such fragile creatures have survived as some of the oldest winged insects with us today.

The combination of short-lived adults and fragile larvae make mayflies hard to study, and our knowledge of their natural history is still at an early stage compared to other forms like beetles and caddisflies. As a taxonomist, I know that strong sclerotisation makes taxonomic work and the study of morphology much easier. The weak sclerotisation of mayflies induces a pronounced intraspecific variation in many features, and makes the study of size and shape much more difficult.

The high number of larval instars present adds up to the difficulties that have to be faced. In spite of these problems, the sensitivity of the larvae for water quality, has given the mayflies a central role in environmental monitoring.

They are useful tools for the study of environmental degradation such as acidification and various forms of pollution, and they would be even more useful if we could attain a deeper knowledge of their taxonomy and phylogeny. This knowledge is also badly needed for our responsibility to

conserve biodiversity. Mayflies are prone to include a high proportion of cryptic species, morphologically similar but differing in their biology in subtle ways. This could especially be expected in such a biogeographically complex region such as the Mediterranean with its high number of endemic areas. Geographically wideranging studies that combine genetical and morphological analysis of species complexes will no doubt give us a firmer base for the recognition of species limits and thus finer tools for biomonitoring and conservation. And of course, greater insight into the biology of these fascinating insects.

It is my hope that the new journal will encourage studies of the different aspects of mayfly biology, and become a central forum for those devoted to this interest. I wish the organizers good luck and give them my sincerest congratulations to this important step in creating the first scientific journal entirely delimited to the order Ephemeroptera.

Anders NILSSON

Le Dr Anders NILSSON est enseignant chercheur à l'Université d'Umea, Suède. Au-delà de ses compétences reconnues, il a eu le grand mérite de la coordination et de l'édition de l'une des très rares faunes européennes de la décennie sur les insectes aquatiques : «Aquatic Insects of North Europe. A taxonomic handbook» en deux volumes, parus respectivement en 1996 et 1997, chez Apollo Books, Danemark.

Dear Readers

The new journal EPHEMERA is a welcome addition to the scientific literature and a signal of changing times. As this new journal is inaugurated, we take one more step into an era in which biology and biologists are being drawn together by the thread of biodiversity. Biodiversity, particularly a understanding of its sources, extent, ecological significance, and conservation, looms as the great challenge for biologists as we enter the next century. We only recently realized that we do not know, even within an order of magnitude, the number of species with which we share the planet. One of the most important questions before us is the connection between the diversity and composition of communities and the ecological functioning of ecosystems. However, we seek answers to this question as the pace of extinction and homogenization of biotas quickens.

As the list of environmental threats to our biological heritage lengthens, biologists everywhere feel a heightened sense of concern. This concern, turned to action, has become the biological quest of our age. Ironically, with this quest to understand and conserve biodiversity, we revisit the roots of our discipline, which lead more than two millennia into the past, to a time when the chief focus was the description of species and their natural histories. We return to these ancient questions with multidisciplinary teams of scientists wielding a host of new tools, including all the techniques of modern molecular biology, powerful micro and macro imaging systems, and computers capable of sophisticated quantitative analyses. However, the glitter of modern hardware should not blind us to the fact that the task is the same as that taken up by our classical antecedents—fully describing and understanding the diversity of species and their roles in the workings of nature. At the heart of this enterprise, sits the very same objects that drew the attention of the earliest biologists: individual organisms and their populations.

We once again recognize the importance of studying whole organisms and realize that in the urgent task before us, there is no more valuable resource than the experienced organismic specialist. However, such specialists can make their potential contributions only if provided with a forum for communication with the broader scientific community and an archive to preserve their works. The new journal EPHEMERA provides both. Great thanks are due to the creators of this journal. Their energy and foresight allow us to continue our exploration of one of the most ecologically important groups of aquatic organisms.

Manuel C. MOLLES, JR.

Professor and Curator
of Arthropods, University
of New Mexico, USA

Le P^r Manuel MOLLES est l'auteur du récent livre remarqué : «Ecology : concepts and applications» paru en 1998 chez Mc Graw-Hill, New York. C'est aussi un enseignant exceptionnel, lauréat du titre de «Professeur de l'Année» de l'Université d'Albuquerque, Nouveau Mexique, en 1995-1996.