

# Journal of Sedimentary Research

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**Tracking Environmental Change Using Lake Sediments, Vol. 3: Terrestrial, Algal and Siliceous Indicators**, edited by John P. Smol, H. John B. Birks & William M. Last, 2002. Kluwer Academic Publishers, P.O. Box 17, 3300 AA Dordrecht, The Netherlands; 371 pages, hardbound; price EUR 95.00, USD 105.00, GBP 66.00. ISBN 1-4020-0681-0.

This book, volume 3 of a 4-volume series on Tracking Environmental Change Using Lake Sediments, is a valuable addition to the personal library of any paleolimnologist - in fact, for anyone interested in non-marine paleoenvironments (students as well as professionals, especially those more than ten years into full-time jobs in academia, industry or government). Those of us who study lacustrine sediments concentrate on certain components that we have been trained (usually as students) to process for, identify, and interpret. Even within our preparations, there is usually a substantial fraction "of no interest" that is ignored as a nuisance. For instance, in my 25 years as a palynologist, I have seen (and sometimes noted, more rarely tried to identify) many non-pollen palynomorphs in lacustrine sediments.

Few of us, after graduate school, have the luxury of taking the time to wade through a huge body of literature ranging across all of the kingdoms of life if there is no substantial and fairly immediate promise of payoff.... at least, not if we want to maintain a reasonable publication record allowing us to compete successfully for research funding! Nonetheless, we are all aware that, in ignoring a large portion of the paleolimnological record, we are missing part of the story - possibly a vital part. Compilations like this one provide "one-stop-shopping", illustrating a number of terrestrial, algal and siliceous indicators, discussing their potential applications as well as limitations through historical reviews and recent case studies, and outlining typical methodology. The reader is also directed to additional resources suitable for the beginner undertaking these analyses, and the discussions of caveats/ limitations associated with the study of various indicators (including taphonomic skewing and taxonomic chaos) are particularly valuable for those of us wishing to interpret data with which we have only a general familiarity.

As a paleolimnologist, I find myself thumbing through the book at the microscope and when interpreting the results contributed by colleagues to a joint project on the paleoclimatology and paleohydrology of Lake Huron. As an instructor, I will use this book in planning lectures and laboratory exercises. My favourite feature is the Glossary, Acronyms and Abbreviations section, which greatly facilitated reading material with which I have little familiarity (like sedimentary pigments, chrysophytes and ebridians). I was also pleased to see that the volume was dedicated to the memory of Julian Szeicz who was killed by an avalanche while doing fieldwork a few years ago. Fittingly, the editors included a brief section on safety considerations and caution, important not only to inform the novice, but to remind all of us about the potential dangers associated with field and laboratory work.

Although there have been other similar compilations, they are over 10 years old, and they lack the up-to-date developments and case studies included in this volume. I benefited most from the chapters on siliceous indicators with which I have little personal experience, but I learned something of interest from each of the chapters, even those dealing with paleobotanical/palynological indicators and testate rhizopods, even if it was only of a case study I had not previously read.

My only criticisms of the book are (1) the absence of abstracts/summaries at the beginning of each chapter (these are relegated to the end, following the conclusions), and (2) the binding of my copy was slightly substandard, with a few pages stuck together well above the binding and a few others very loosely bound. In conclusion, this volume is a welcome addition to any library, particularly when used in association with the other three volumes in the series.

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