

Printing errors

Being a subscriber to your journal, I would like to praise its quality maintenance and regularity. But I cannot refrain from raising fingers over its drawbacks. I always find substance in your editorial probings which often embark upon some glaring contemporary issues of mass concern in the realm of science. Moreover, the style of criticism and the healthy tradition of being bold, fearless and uncompromising deserve appreciation.

I have, however, been much pained to find some grave printing errors and few miscellaneous mistakes in some recent

issues of the journal. I must remark that the job of proof-reading is perhaps not being done with painstaking care and precision that a journal of such reputation deserves. While at some places syntactical errors or the errors of phraseology are observed, at others printing trends unmatched with standard literature seem to have been preferred. Mistakes of repetition of pages are also detected in some issues of the journal. Some errors are also repeated on the same page.

I hope due care would be taken in future to avoid such errors and short-

comings in the journal and maintain *Science* absolutely impeccable bibliographical discrepancies.

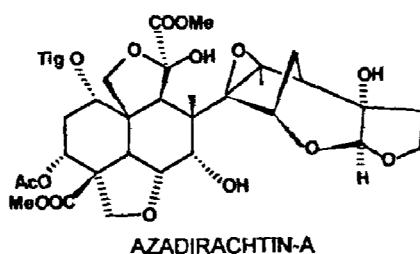
MAH

Department of Botany,
B.M.D. College, Dayalpur
Vaishali 844 502, India

Editors' note: The author also provided a list of errors. We apologize for mistakes that have crept into the recent issues.

The structure of azadirachtin

The azadirachtin structure printed on p. 174 (*Jaya Varma and Dubey, N. K., Curr. Sci., 1999, 76, 172-179*) suggested originally by Nakanishi was wrong. The correct structure is shown here, in which the decalin segment and the dihydrofuran segment are linked by a single bond between C-8 and C-14.



T. R. GOVIN

Spic Science Foundation,
Mount View,
111, Mount Road, Guindy,
Chennai 600 032, India

NEWS

Advanced geophysical fluid dynamics and geological fluid mechanics

The Fifth SERC (Science and Engineering Research Council) School on Advanced Geophysical Fluid Dynamics, sponsored by Department of Science and Technology, New Delhi was organized at the National Geophysical Research Institute, Hyderabad during 15 June - 7 July 1999. The theme of this School was 'Dynamics of Earth's Fluid Systems'. The objective of this School was to provide the necessary background to the participants and motivate them for pursuing research work in the

challenging and high-priority areas of dynamics of Earth's fluid systems.

The lecture notes volume, edited by S. N. Rai and D. V. Ramana, released at the school covers different aspects of dynamics of the earth's fluid systems. These are: (1) Introduction, (2) Elasticity and Faulting, (3) Porous media flow, (4) Heat and mass transport, (5) Fluid mechanics, (6) Lithospheric deformation, (7) Magnetohydrodynamics, (8) Hydrothermal processes, and (9) Dynamics of atmosphere and climate. The

five guest lectures delivered on related topics are: (1) Fluid dynamics of hydrocarbons recovery from reservoirs, (2) Mechanism of reservoir earthquakes, (3) The Earth as a body - the new paradigm, (4) Tectonics - some recent results and mechanisms, and (5) Dynamics of fluids in metamorphic processes.

A two-day workshop on 'Geological Fluid Mechanics' was organized at the same venue during 26-27 June 1999. The Indian National Science Academy

Delhi), National Geophysical Research Institute (Hyderabad) and CSIR Centre for Mathematical Modelling and Computer Simulation (Bangalore) sponsored the workshop.

The main aim of the workshop was to discuss different research and development aspects of geological fluid mechanics. Nineteen research papers on different topics such as palaeoseismicity and neotectonism, palaeoclimate reconstruction, metamorphism, fluid processes associated with magma underplating, effects of fluid circulation on the thermal structure of evolving lithosphere, magma upwelling beneath the central Indian ridge, viscous effects in GPS geodetic observations, time dependent flow in a plume conduit, origin of hot springs in the west coast belt of India, mass excess in lesser Himalayas due to fluid circulation, sublithospheric deformation beneath the western continental margin of India, prediction of possible subsidence of Bassein field,

power law random behaviour and seasonability bias of northeast earthquakes, seismicity and fractal dimension of fault network in Koyna region, role of pore pressure in inducing earthquakes associated with the Koyna and Warna reservoirs, modelling of groundwater flow dynamics, downward movement of moisture in shallow soil zone, and groundwater flow velocity measurements were presented and discussed. Besides these, an invited lecture was delivered on non-Newtonian flows in geosciences.

The following recommendations were made at the plenary session:

- Studies on the evolution of Indian Shield since Cambrian, regional groundwater flow due to tectonic evolution and lineament patterns should be carried out in close cooperation between geophysicists and geologists.

- Arrangements should be made for continuous monitoring of water table fluctuations, specially in problematic areas to devise suitable measures for protecting the regional water balance and preventing environmental problems such as contamination of groundwater, water logging, depletion of aquifer, land subsidence, etc.
- Experimental and modelling works should be carried out to understand the complex problems of fluid dynamics such as dynamics of liquid core, mantle convection, hydrothermal circulation in oceanic environment and continental regions, etc.
- Studies on coupled interaction among atmospheric, ocean and solid earth systems should be taken up for better understanding of the dynamic behaviour of earth system.

S. N. Rai, National Geophysical Research Institute, Hyderabad 500 007, India

Earthquake recurrence: State-of-the-art and directions for future*

Palaeoseismology¹ is a multidisciplinary science of reconstructing the seismic history of an area using the geological evidences of palaeoearthquakes as a tool and dating them. The field of palaeoseismology has expanded vastly in the last two decades and has recorded several cycles of earthquake recurrence related to many important seismogenic faults. In order to assess the current status of the subject, an international workshop was held. From all over the world, 20 participants actively working on different aspects of palaeoseismicity were invited to present both the state-of-the-art on palaeoseismological studies in their respective countries, and the compilation of data set for their country. The workshop was attended by well-

known palaeoseismologists like James McCalpin, David P. Schwartz (USGS); Kozi Okumura, Hiroshima University, Japan; Mark W. Stirling, New Zealand; W. L. Ellsworth (USGS) and John Haines, University of Cambridge.

The principal aims of the workshop were:

- (i) to develop the outline of a proposed worldwide palaeoseismic database, including quantification of intrinsic uncertainties of existing data;
- (ii) to make a project plan for the development and maintenance of the worldwide palaeoseismic database;
- (iii) to determine the availability of scientists from the palaeoseismology/seismology community to gather data and/or in the field or country/part of world to assist the project; and
- (iv) to investigate the availability of funding for data collection and in-

terpretation including scientific collaboration.

Daniela Pantosti discussed the state-of-the-art in palaeoseismological data collection and the use of the data in earthquake recurrence modelling. Palaeoseismological data from different countries like USA, New Zealand, Japan and the Mediterranean, low to moderate seismicity areas of Europe, China, S-E Asia, Turkey and India were presented. Japan, New Zealand and USA have excellent palaeoseismology data sets. Attempts were made to discuss the importance of quantification of the intrinsic uncertainties of the existing data, absence of which may lead to misinterpretation of true seismic hazard of the area of interest. A qualitative method of describing uncertainties related to interpretation of palaeoseismological data was proposed. According to Kozi Okumura, 163 trenches on 122 active faults were made in Japan and only 10% of them brought timing of three or more

*Workshop convened by Daniela Pantosti of Istituto Nazionale di Geofisica, Rome, Italy, under the aegis of International Lithosphere Project (ILTP)-II-5, held at Rome, Italy during 22-26 February 1999.