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Superheated emulsions

Superheated emulsions, that contain 'drops' of liquid at the superheated stage at a temperature above its boiling point, are now routinely used as detectors in neutron dosimetry and spectrometry. First introduced by R. E. Apfel in 1979, the technology has been in use at the Bose Institute, Kolkata. Roy and Roy (page 516) review the field of neutron detection for dosimetry and spectrometry purposes, describing their own work.

Herbal therapy for hepatitis C virus

The herb *Phyllanthus amarus* is known for its biological activity against hepatitis B virus (HBV), but its therapeutic value against hepatitis C virus (HCV) is not well documented. Bhattacharyya *et al.* (page 529) chose bovine viral diarrhoea virus (BVDV) as a surrogate model to assay potential anti-HCV bioactivity in cultured roots of the herb. The roots are cultured in 0.25 strength MS medium in presence of 1.0 mg/l IAA. The root extract exhibits reproducible dose-dependent anti-viral effect, with little cytotoxic side effects.

Arsenic removal

The problem of arsenic contamination in drinking water, that affects millions in West Bengal (India) and Bangladesh, is difficult to solve using traditional methods of removal of metal ions. Detoxification of arsenic

in potable water requires oxidation of toxic arsenite [As(III)] to arsenate [As(V)]. Jayaweera *et al.* (page 541) report a simple method for detoxification of As[III] utilizing a photocatalytic oxidation reaction under UV radiation (or sunlight) in presence of TiO₂ photocatalyst. The rate of reaction depends on the aqueous pH to a lesser extent, and no metallic arsenic is formed. Jayaweera *et al.* suggest a plausible mechanism for the reaction. The findings are likely to find practical applications.

Tale of *Rana*

The Indian frog *Rana tigerina*, presents an intriguing story of regeneration of limbs from the amputated tails of tadpoles. Das and Mohanty-Hejmadi report (page 557) the homeotic transformation in the amputated tail portion of a tadpole of *R. tigerina* in presence of vitamin A. Dramatic effects caused by vitamin A can be divided into the following three stages: thickening of the epidermis, enlargement and thickening of the sheath covering the nerve cord, and development of limbs from the tail-end. The interesting gross morphological abnormalities preceding the development of the limb include development of bulbular mass at the amputated end forming a blunt tip, and extension of an abnormal protrusion from the distal end. The development of a 'callus' in the plant regeneration systems perhaps parallels such reorganization in the tissue architecture in tadpole tail tissues. While we celebrate the reversal

of time's arrow of differentiation in tadpole tissues, perhaps such knowledge can help us understand the histopathological events during tumorigenesis.

Indian North and Tibetan South: Earthquakes

Early earthquakes in Southern Tibet and Northern India are lesser known events. Ambraseys and Jackson, fill this void in our understanding of seismological events in this area. On page 570, they report the case histories of seven earthquakes in the region that occurred between 1411 and 1806 AD, opening the way for more detailed subsequent analysis. They conclude that the forecasts for similar events in the future are not currently possible.

Libyan formation

Algal Limestone Member is a part of the Al Bayda Formation in the north-eastern region of Libya. A rich algal assemblage, represented by Sporolithon, Neogoniolithon and Lithothamnion, is recovered from this early Oligocene Formation. On page 582, Hassan and Ghosh describe many of these algal species preserved as rhodoliths larger than 1 cm in dimension. The authors surmise that these rhodoliths prefer to colonize shallow and warm water with intense light.

S. Ganguli