

In this issue

Insect growth regulators

Singh *et al.* (page 1184) report extraction of insecticidal activities from *Catharanthus roseus* leaves. Dry leaves are powdered and then extracted with methanol, and eventually fractionated with organic solvents. Each fraction is tested for its activity against larvae of *Spodoptera litura* and *Helicoverpa armigera*. The authors are successful in isolating several acetone extractives from the leaves as a natural growth regulator. The plant-derived eco-friendly insect growth regulators are needed for the integrated pest management programmes.

Transgenic indica rice

Provision for cheap dietary supplement is an important agenda in the rice-eating third world countries. Dietary supplements, as pills, are already in use in the western lifestyle.



A better approach for the rural folk is to evolve staple diets that are enriched in desirable micro-nutrients. S. Krishnan *et al.* (page 1232) describe making transgenic rice enriched with β -carotene and iron, which are required for treating vitamin A-deficiencies and iron-deficiency anaemia respectively. The seeds of the transgenic rice cultivars are

produced at the International Rice Research Institute. β -carotene and iron can be detected in the endosperm of the transgenic seeds.

AIDS in India

The population of Indians carrying HIV is growing. This deadly scourge has evolved its own epidemiological dynamics in the past decade and a half. Mathematical models often simplify the enormity of the problem and can also predict recurrences of epidemics. Arni S. R. Srinivasa Rao (page 1192) discusses a simple epidemic model, a transmission model and a back calculation method to describe the course of the AIDS epidemic in India.

Elephant fossils

Some unexpected findings have befallen a gypsum mine in the land of a farmer, Adu Ram, in the village Bhadawasi, Rajasthan. Fossilized bones of a large mammal have been discovered in the gypsum bed. Fossil remains recovered include bones of the limbs, and parts of the ribs and vertebral column. The climate and ecology, and the possibility of the existence of a river in the location that is currently the Thar desert, point to the fact that the site was a green forest in ancient times. All facts taken together, the large mammal can be an elephant. Paliwal (page 1188) describes the specimens obtained from the site.

Non-retinal phosphodiesterase

Phosphodiesterases (PDEs) are required in maintaining the cellular levels of cyclic nucleotides. The interaction between the gamma-subunit of PDE and the G-proteins has been studied in detail. The prototype, transducin, is involved in the photo-activation of

PDE-6, an isoform belonging to the PDE-family of proteins. PDE-6 is found in retinal tissues, but can be detected in non-retinal tissues as well. Venugopal *et al.* (page 1227) report identification of PDE-gamma transcripts in lung and testis in mice. RT-PCR and Western blotting experiments identify both rod and cone isoforms of the gamma-inhibitory subunit of the phosphodiesterase. This finding leads to the speculation that phosphodiesterases may play a significant role in processes other than the visual signal transduction in mammals.

Phytophthora palmivora

The etiological agent of black pod disease, *Phytophthora*, is a major concern among cocoa and coconut growers in certain parts of India. Chowdappa *et al.* (page 1235) collected many samples of several species of *Phytophthora* and investigated the molecular genomic features in rDNA gene repeats. Based on the characteristic patterns, the internal transcribed spacer (ITS) region can be used as a taxonomic marker for the various isolates.

Dinoflagellates in the sea

Jyothibabu *et al.* (page 1247) report the results of a study conducted at five oceanic stations in the Bay of Bengal and the Andaman Sea during the inter-monsoon season in 2001. The field experiment focused on assessing the diversity of the biomass. It is found that protozoans, mainly ciliates and dinoflagellates, dominate the micro-zooplankton community. The contribution of dinoflagellates is as high as 80% of the micro-zooplankton density.

S. Ganguli