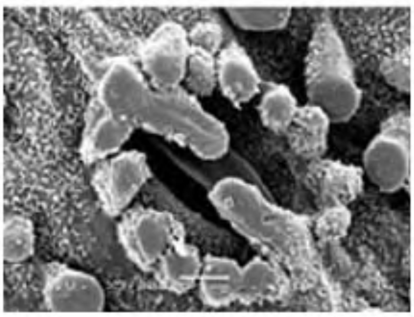
In this issue

Indian monsoon

In this issue there is a special section on the Indian monsoon containing six papers that address different facets of the Indian monsoon. In the first paper, Bhat and Narasimha discuss (**page 153**) observational experiments conducted in the Indian region during the past 50 years. This paper highlights the objectives and outcome of some of these experiments and explains how the experiments helped in the understanding of monsoon processes and augmented monsoon research in the country. Srinivasan and Joshi (**page 165**) show the impact of satellite data on development of theories of monsoon. Till the advent of satellites, the land–sea contrast theory was the dominant paradigm. The radiance data from satellites showed the role played by the net radiation at the top of the atmosphere on the energy budget of the monsoon. The satellite imagery highlighted the eastward migration of clouds along the equator and the northward migration from the equator to the Indian latitudes. Nanjundiah and Krishnamurti discuss (**page 173**) the mechanisms governing the zonal and meridional migration of monsoon rain bands. They discuss the role of ocean–atmosphere interaction in the intra-seasonal variation of monsoon. They highlight the role of the ocean by examining the forecasts made by a coupled ocean–atmosphere model. Sulochana Gadgil *et al.* discuss (**page 182**) the factors that influence the inter-annual variation of the Indian monsoon rainfall. They show that variations in both the equatorial Pacific Ocean and the equatorial Indian Ocean influence the Indian summer monsoon rainfall. They demonstrate that the climate models used to predict inter-annual variation of the Indian monsoon rainfall are able to capture the link to the warming in the Pacific Ocean but not able to simulate the links to the equatorial Indian ocean. They highlight the need for more research to understand the links between the equatorial Indian ocean and the Indian summer monsoon. Xavier and Goswami argue (**page 195**) that it is more important to predict the active-break spells of the Indian summer monsoon rainfall than the June–September all India summer monsoon rainfall. They propose a new empirical model for extended range prediction of monsoon breaks three weeks in advance. In the last paper, Vinayachandran *et al.* discuss (**page 203**) the impact of the sea surface temperature in the Arabian Sea on the onset of Indian summer monsoon and in the formation of 'monsoon onset vortex'.

'Basmati rice aroma' in abaxial papillae of *Pandanus amaryllifolius*

Leaves of *Pandanus amaryllifolius* Roxb. are popularly added in the ordinary rice while cooking to impart its pleasant flavour. Interestingly, the



flavour is found to contain the same basmati aroma principle-2 acetyl-1-pyrroline (2 AP) in higher amounts along with other volatiles. Wakte *et al.* (**page 238**) have worked out that these compounds are stored in the lower epidermal protrusions of leaf called papillae. Detailed SEM studies of these papillae are carried out. These papillae are the extensions of epidermal cells and, up to 7 papillae are recorded in a cell. Around the stomata, they form a necklace-like structure with two papillae protruding in the stomatal cavity. The number of papillae is also found varying in the clones collected from two different localities. Steam distillation of leaves yielded 3.10 mg of 2 AP per kg of fresh leaves.

Context sequence for transcription factors surrounding start codon in model crops

The context of start codon (ATG) is an important regulatory factor and optimum context sequence depends on the function of mRNA synthesized in the cell. The context sequence of translation initiation site (TIS) is thought to influence translation efficiency, and protein that operate at low abundance in the cell, e.g. transcription factors (TFs) presumably have less optimal context sequence than other sequence. The context of consensus sequence surrounding ATG was determined and compared from a set of TFs derived from a total of 1689 and 2856 genes of *Arabidopsis* (roughly 18% of total genome) and rice (12% of genome) respectively. The derived consensus sequence is partially similar but not identical to general consensus sequence for flowering plants. *Arabidopsis* exhibits AT richness whereas rice exhibits GC richness upstream and downstream of ATG. The percentage of pyrimidines (T/C) considered as poor context at -3 positions is conserved in both the taxa. See **page 215**.