Book Review

Advances in Plant Biology (Debidas Bhattacharya Birth Centenary Commemoration Volume) *Edited by : Sudhendu Mandal and Sukla Bhattacharya;* **Published by : Binapani Educational and Welfare Trust, Sriniketan, West Bengal, Pages 483, 2009, Price : Rs. 795, US $ 30.**

This book deals with the series of Endowment Lectures delivered on the occasion of the Birth Centenary of Professor Debidas Bhattacharya by distinguished teachers and scientists of different Universities and Research Institutes of India comprising important research findings of different disciplines of plant science.

These lectures will give ideas, informations and the trend of current researches going on in different disciplines of botany which will definitely act as a guide to students and research workers in their respective fields. Some of these endowment lectures have a good academic value in basic science. Special mention may be made of lectures contributed by Sunirmal Chanda, S. K. Datta, P. K. Ray and N. C. Datta. Professor Chandra discussed the origin and evolution of life using different fossil evidences through ages emphasizing the interrelationships and interdependence of plants / animals leading to the evolution of plant and animal life. This will help students in the study of evolution. Professor S. K. Datta discussed the role of Genetic Engineering in crop improvement showing the need of gene revolution to overcome the shortage of food grains particularly in the third world countries. Professor P. K. Ray showed the impact of the indiscriminate use of pesticides by farmers for increasing the production of food without thinking for the loss of fertility of land, loss of ecological balance in the environment and the health hazard of the human being. Professor Ray discussed the major health hazard caused by the pesticides. Professor N. C. Datta explained the relationship of ecology, environment and biodiversities which will be helpful to the students of ecology. Again some of the research papers in this book are not related with advance topics and so do not exactly match the title and objective of the volume.

This book should also include some topics on use of molecular markers in different fields of botany for the study of genetic polymorphisms, identification and characterization of individual genotypes and in drawing phylogenetic and taxonomic relationships of different taxa.

On the basis of overall discussions of the subject, this volume will be useful for students and teachers in the field of plant science. All these lectures will also be a very good guide in researches of different disciplines of botany.

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Notes and News

World's Biodiversity is at Stake

Pavlovsk experimental station located at the outskirts of St. Petersburg which contains more than 70 hectares of land planted with 5,500 different varieties of apples, pears, cherries, and numerous berry species – most of which occur nowhere else on Earth and were developed over hundreds of years will be no more and will be replaced by single-family housings if the rulings of the supreme court come true. In a verdict given on August 11 by Russia's Supreme Arbitration Court ruled that the land occupied by the plant bank may be transferred to the Russian Housing Development Foundation, which is responsible to build housings and other infrastructures to realize the development and growth of St. Petersburg.

The collection of plants was started in 1926 by the father of seed banking, revered Russian geneticist Nikolai Vavilov. The genetic wealth harboured in thousands of plants over the years at Pavlovsk lies in untold numbers of mutations for drought tolerance, unique taste and growth characteristics, and propagation abilities that could help to improve crops on a global scale, according to Emile Frison, director general of the charity Bioversity International, devoted to agricultural biodiversity. Simply banking seeds from the collection's plants is not an option. Most of the unique fruit plant strains do not reproduce asexually, and are pollinated by other strains, so their seeds do not necessarily yield adult plants that mirror the characteristics of the parent plant. For this reason, the only way to

preserve the vast genetic diversity contained in the Pavlovsk is to keep the plants growing in the ground or to move them to a new site – a dicey and time-consuming proposition, as the perfect site would have to be found and planted only after years of grafting and then monitoring for suitable transplants. Scientists all over the world are very much concerned because this collection belonged not only to the institute and the Russian people, but also to the world community. Only two persons who have the authority to overrule the court order is Russian President Dmitry Medvedev and Prime Minister Vladimir Putin and scientists are approaching them to save the collection.

According to Cary Fowler, director of the Global Crop Diversity Trust, bulldozers could move in as soon as 3 to 4 months from now, if the Vavilov Institute's appeal is unsuccessful. "If we lose this appeal and if the president and prime minister don't jump in this coming month, we'll be facing the largest one day loss of crop diversity in history probably," he said. ❐

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Needle – Free Malaria Vaccine

According to a news released by the Max Planck Institute, published in the recent issue of the journal **Science Translational Medicine,** a team of German scientists from the Max Planck Institute for Infection Biology in Berlin may have discovered a "needle-free" malaria vaccine by combining antibiotics with malaria-infected mosquitoes using mosquitoes themselves as syringes. The idea behind the study by the researchers was to "combine a classical prophylaxis aspect, which is antibiotic treatment (that travellers use to protect themselves from malaria) together with a natural exposure".

Information is that Kai Mautschewski and his team infected mice with sporozoites released from the malaria-carrying mosquitoes. The sporozoits migrated to the liver where they replicated abundantly and matured to the

disease causing blood stage cells called merozoits. However, in this study, although the merozoites continued to develop in the liver, the antibiotics prevented them from actually entering red blood cells, which disabled the onset of malaria symptoms.

"The mosquito is our sort of syringe that delivers the pathogen and we stop the parasite from growing in the liver through antibiotic prophylaxis", Mautschewski wrote. Subsequent trial has shown that the mice did not get sick from this treatment, rather they developed long term immunity. The antibiotics used in the study were clindamycin and azithromycin, both generic drugs that are cheap and readily available – a good news for poor countries. Clinical trial has been planned by the researchers. They would start it sub-Saharan Africa by the next summer.

Meanwhile, researchers have discovered a promising new malaria drug with a potential to treat resistant strains of the deadly disease in a single doze according to a study published in the journal **Science**. "The drug, which will be ready for clinical trials later this year, appears to be more potent than currently used drugs". said study author Elizabeth Wnzeter, a professor at the Scripps Research Institute and member of the Genomics Institute of the Novartis Research Foundation, reports AFP. ❐

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