

their resources for health care and food-security in the rural and tribal areas.

None of the articles in the book examines health implications of violence against women, problems faced by health-workers in the community and inhuman practices such as branding, human sacrifices, female infanticide, female feticide, witch-hunting, etc. As these practices are ignored as cultural issues, women and girl children end up getting brutalized.

This book's major strength is its canvass: contextualization of health care problems in the developing world in the global power relations, metropolitan commercial interests and racist population and environment policy. The book will provide useful material for class room teaching in the Preventive and Social Medicine (PSM) departments of medical colleges, public health departments of the local self-government bodies, health departments of state and central governments, educational programmes of the non government organizations and extension education departments of various universities.

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Teak. S. Chand Basha, C. Mohanan and S. Sankar (eds). Kerala Forest Department, Office of the Chief Conservator of Forests, Vazhuthacaud, Thiruvananthapuram 695 014, India and Kerala Forest Research Institute, Peechi, Thrissur 680 653, India. 1997. 274 pp. Price: Rs 200.

Palms of Kerala. C. Renuka. Kerala Forest Research Institute, Peechi, Thrissur 680 653, India. 1999. 72 pp. Price: Rs 300.

Teak (*Tectona grandis*) and Palms (Arecaceae) are amongst the most utilized plants of tropical origin. These flowering plants are in great demand worldwide as timber, ornamentals, avenue plants, food, oil seeds, furniture and baskets (especially cane/rattan) and as thatch. Due to such economic value teak and many palms have lost much of their natural populations and are currently found largely as cultivated plants outside their native habitats.

Kerala is a known centre of origin and trade of teak. Thus Indian teak came to be known as 'Malabar teak' in the timber trade. (The other teak of great value is Burma teak from Myanmar.) Similarly, Kerala also supports a remarkable diversity of native palms, many being endemic to south-west India. For instance, 15 species of cane/rattan (*Calamus* spp) are known from Kerala. Besides coconut, cane/rattan available in Kerala are amongst the most utilized palms in the world.

It is in this context that the two publications from Kerala are of great significance. The first, *Teak*, is a compilation of around 60 papers presented at the International Teak Symposium, held in Thiruvananthapuram, Kerala in December 1991. Participants at this symposium were from India and Indonesia, two of the largest teak-growing countries. The various papers in the edited volume cover aspects of origin and spread of teak, its commercial value and means of estimating this, plantation techniques, pest and disease management and most interestingly a critique of the modern claims that by owning 'teak real estates' one might turn rich overnight.

Some of the highlights of the compilation are the origin and early history of teak plantations in Asia. Whereas it is undisputed that teak is a native of India, Myanmar and a couple of other south-east Asian countries, there is debate on its occurrence in Indonesia. Some authorities maintain that teak is indeed native to Indonesia while others contend that it could have been introduced from India somewhere in the second century AD. Nevertheless, teak is widespread in Indonesia and since the early 1600s plantations of teak have been popular in this island country. India's first teak plantation was established in Nilambur, Kerala in 1840s.

Teak is a magnificent tree growing nearly 60 m tall and attaining a maximum girth of 9 m. Other species that are closely related to teak are *Tectona hamiltoniana* from Myanmar and *T. philippinensis* from Philippines. *T. grandis* however produces the best quality timber. It has been predicted that the demand for teak wood is never going to subside. This calls for more plantations and better techniques for sustainably managing the plantations. At least 50 species of trees in India are known to have timber quality comparable with teak. Attention has been drawn in the compilation to this interesting fact

suggesting that these alternatives be more seriously considered.

On the whole, the publication can be of great value to managers of teak. However, it says very little about teak's impact on local biodiversity. Despite occasional statements such as 'elephants are happier in teak plantations than they are in evergreen forests', there is hardly any mention of what happens to the local fauna and flora when extensive teak plantations are established in biodiversity-rich landscapes as the Western Ghats. Being deciduous, teak plantations in areas of high rainfall do lead to considerable soil erosion. The adverse impacts of teak in tropical ecosystems hardly find a place in this otherwise comprehensive compilation.

The second publication, a well-illustrated book on Palms by C. Renuka on the other hand, is more of a beginner's guide to the subject. It not only discusses the native species, but also describes the introduced species of ornamental and other economic values. The colour plates depicting all the species described, the many line drawings of the salient features that aid identification, the glossary and the generally simple text have together made the book very useful to even amateur and school students. In fact, the book can be useful to palm-lovers in India.

A few suggestions are nonetheless needed to help further improve the book. First, the contents are not well researched. While brief descriptions of habitats are provided for each species, key aspects have been missed. For instance, the endemic palm *Pinanga dicksoni* is very much associated with the swamp forests in the Western Ghats, including those in Kerala. This characteristic feature of the palm has not been mentioned. Second, at least a few distribution maps if included would have added to the quality of the book. Finally, if the publishers are planning to bring out an updated edition of the book, it may well be that a Malayalam version is thought of. The present style and language permit easy translation.

As a general remark, I wish to reiterate that the two publications are quite useful and timely. The publishers should make appropriate efforts to have these books widely distributed.

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G. P. ChannaBasavanna (1920–2000)

An obituary

The growth of acarology in India during the last three decades can be attributed to a few landmark events: organization of two training programmes and founding of the Acarological Society of India in the seventies, organization of the VII International Congress of Acarology and implementation of the All India Coordinated Research Project on Agricultural Acarology by the Indian Council of Agricultural Research (ICAR) in the eighties. One personality behind all these events was G. P. ChannaBasavanna (GPC). In the seventies when very few biologists in this country were working on mites and ticks, programmes organized by GPC were successful in training several young biologists of the time in acarology and many of them later took up the study of mites and teaching acarology.

The Acarological Society of India under the presidentship of GPC has published the *Journal of Acarology* (formerly *Indian Journal of Acarology*) and *Acarology Newsletter* which were edited by him. He organized five national symposia under the aegis of this Society. His aim to strengthen acarological research in the country by establishing a network of acarologists was achieved when the ICAR approved his proposal to set up the All India Coordinated Research Project (AICRP) on Agricultural Acarology with centres in eight universities spread across the country. GPC's main contribution was to our understanding of Eriophyidae (tiny four-legged mites frequenting flower and vegetative buds and many causing galls or erineas to which the recently invaded dreaded coconut mite belongs) and Tetranychidae (spider mites) and house dust mites.

GPC's interest by no means was confined to mites, he also made important contributions to the study of insects, rodents, birds, etc. He was respected among the scientific community for his extensive knowledge on various insect groups. Many of his students worked on taxonomy of insects and mites. It is for this reason that the Department of Entomology at Bangalore is identified with taxonomic research in the country. He was also a strong advocate of Integrated

Pest Management and initiated studies on the management of cabbage pests as early as 1975.

Among the entomologists of this state, M. Puttarudriah and ChannaBasavanna were almost household names during the middle of the last century. Puttarudriah, a student of Paul DeBach, was a strong opponent of modern pesticides whereas GPC was a moderate, proposing need-based usage of pesticides. Both these personalities taught entomology for undergraduate students in the Agricultural College, Bangalore. Several of the students of that time recollect the courses in entomology taught with devotion by GPC



and Puttarudriah even to this day. During his tenure as Head of the Department of Entomology, GPC started the post-graduate course in sericulture, he also initiated research on honey bees. His efforts to popularize bee-keeping resulted in the starting of the Bangalore Beekeeper's Association of which he was the founder President.

Gulur Puttappa ChannaBasavanna or GPC as his students and colleagues fondly called him was born on 8 September 1920 to a modest family in Gulur. His early schooling was at Gulur and at nearby Tumkur. In 1937, he obtained a degree in Zoology at Central College, Bangalore. He served in the State Depart-

ment of Agriculture for a brief period. His assignment during this period was to visit coffee estates in Chikkamagalur to ensure the estate owners undertook control measures against the white stem borer. In 1946, he joined as a lecturer at Hebbal Agricultural College, Bangalore. He worked on insect morphology under the tutelage of Mashood Alam at Aligarh Muslim University from 1951 to 1953 for his master's degree. Later, he was involved in teaching entomology and economic zoology to under-graduate students and studying insects. His pioneering works on ladybird beetles (Coccinellidae), areca mites and sorghum mites during this period are referred to even today. Later in 1960, he took up taxonomy of eriophyids for his doctoral degree at the Indian Agricultural Research Institute, New Delhi under the guidance of Ramdas Menon. His doctoral dissertation was published as a bulletin entitled 'Contribution to the Knowledge of Indian Eriophyid Mites'. It includes descriptions of 70 species of eriophyid mites of which 44 were new to science. In 1970, he took over the reins of the Department of Entomology from Puttarudriah and during the ten-year period as Head, the developments in the department were remarkable. A post-graduate programme in Sericulture was started, apiculture research was strengthened, an All India Multi-location Project on mites was initiated, research on rodents was given a boost, and a project on house dust mites funded by the Department of Science and Technology, New Delhi, was initiated. After retirement in 1980, he was designated as Professor (Emeritus) by ICAR till 1985. Later, he served as a visiting professor of Entomology, Chief Advisor to AICRP (Agricultural Acarology) and Indo-Dutch project on Uji fly management.

His energy knew no bounds. He was disappointed that his health did not permit him to participate in the workshop of AICRP (Agricultural Acarology) this April, at Kalyani. He had unfailingly participated in all the workshops of the above project in the past. He had extensively toured in Europe, USA, Japan and Philippines. He participated in the III–VI International Congresses of Acarology

and chaired sessions at the sixth and seventh Congresses.

He served as member on the Entomology/Nematology Scientific Panel of the ICAR and as chairman or member of quinquennial review teams (QRT) set up by the ICAR. As a member of the Editorial Board of the *Indian Journal of Entomology*, *Indian Journal of Sericulture* and *Mysore Journal of Agricultural Sciences*, he helped in maintaining high standards.

In recognition of his lifetime contributions to entomology and acarology he was conferred the 'Rajyotsava Award' by the Government of Karnataka in 1992 and was recognized as 'Emeritus Acarologist' by the Acarological Society of India.

GPC will be remembered by the students of science through his more than 200 publications and three books on agricultural entomology and acarology. After

a brief illness GPC died on 1 May 2000. He is survived by his wife, three sons and six grand children.

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CURRENT SCIENCE

Special Section on Surface Characterization

(25 June 2000)

Guest Editor: M. K. Sanyal

Progress in scanning probe microscopy: High resolution force microscopy and spectroscopy

Ragnar Erlandsson and Peter Apell

Neutron scattering for surface characterization

J. Penfold

X-ray reflectivity and diffuse scattering

A. Gibaud and S. Hazra

Grazing incidence X-ray diffraction

Pulak Dutta

Investigations of semiconductor surfaces and interfaces by X-ray grazing incidence diffraction

Ullrich Pietsch

X-ray scattering at liquid surfaces and interfaces

Jean Daillant

Surface physics at Saha Institute

S. Banerjee, S. R. Bhattacharyya, P. Chakraborty, A. Dutta, D. Ghose,
S. Kundu and M. K. Sanyal

Aspects of surface and interface characterization by X-rays:

The research programme at IOP, Bhubaneswar

B. N. Dev

Surface and interface studies at IUC-DAEF, Indore

B. A. Dasannacharya, Ajay Gupta, S. M. Chaudhari, V. Ganesan and T. Shripathi

Twenty years of surface science in the Department of Physics, University of Pune

S. K. Kulkarni

Surface analytical facility at NPL, New Delhi

B. R. Chakraborty, Pardeep Mohan, S. M. Shivaprasad, D. R. Sharma,
C. Anandan, A. C. Gupta and A. K. Raychaudhuri

Surface characterization of thin film devices and optical elements

N. K. Sahoo, D. Bhattacharyya, S. Thakur, Dinesh Udupa, R. P. Shukla,
N. C. Das and A. P. Roy

Professor S. P. Ray-Chaudhuri (1907–1994): An architectural scientist

Sen Pathak

I consider myself to be very fortunate to have had Prof. S. P. Ray-Chaudhuri, Ph D (Edin) FNA, as my primary mentor. He inspired me not only to study animal chromosomes, but also taught me to be honest in scientific pursuits, develop humane qualities and work to the best of my capabilities. He inspired students who came in close contact with him to mould their future. Ray-Chaudhuri was a great scientist and scholar with many virtues. All of these qualities made him a 'rare specimen'.

Most modern scientists could be considered as bricklayers who help to build the scientific cathedral. Ray-Chaudhuri, by contrast was a rare architect in the field of biology. He conducted research in diversified fields of biology and I have no hesitation in calling him the 'father of cytogenetics' in the Indian subcontinent.

Sachi Prasad Ray-Chaudhuri was born on 15 September 1907, in a small village of Kulkathi in East Bengal (now Bangladesh), received his early education in Calcutta and finished his master's degree in Zoology from Calcutta University in 1930. In 1937, he went to the Institute of Animal Genetics, University of Edinburgh, for his Ph D degree on silkworms under F. A. E. Crew, then Director of the Institute. Crew advised Ray-Chaudhuri to join H. J. Muller, who was to join the Institute from Moscow, for his Ph D. Muller came to Edinburgh and started a lecture series in genetics (on *Drosophila*) for new students. After Muller's presentation, students were supposed to come up with a project for their research work. Ray-Chaudhuri and Muller became good friends. Ray-Chaudhuri started a Ph D project under Muller's supervision. In 1939, Ray-Chaudhuri was awarded the Ph D degree. Muller, while delivering the Nobel Prize lecture in 1956, quoted results from Ray-Chaudhuri's work.

After returning to Calcutta, it was not possible for Ray-Chaudhuri to have a *Drosophila* research laboratory, so he took training in cytogenetics under P. C. Koller. Ray-Chaudhuri formed a small group of students in the Zoology Department, Calcutta University and pioneered research work on chromosomes of grass-

hoppers, ladybird beetles, dragonflies, spiders and Indian heteropteran insect species. His group mainly focused on the structure and behaviour of chromosomes in natural populations of these insects, sex-determining mechanisms, cytotaxonomy, effect of radiation and chemicals (mitogenic, carcinogenic and antimutagenic) on animal chromosomes, radiation genetics using *Drosophila* as experimental material and chromosome cytology of malignant human tissue, especially from the cervix. His group also started evaluating the chromosome structure under electron microscopy.

In 1960, Ray-Chaudhuri was appointed Head of the Zoology Department, Banaras Hindu University (BHU), Varanasi. At the time, I was an undergraduate student at BHU. Though botany was my favorite subject, I could get admission only in the Zoology department at BHU. I clearly remember the first motivational talk given to our class by Ray-Chaudhuri. That very first lecture changed my life and chromosomes have become my lifelong source of joy as well as my 'bread and butter' since then. While doing my master's degree, I not only learnt about animal genetics, but also learnt the art of teaching from Ray-Chaudhuri who was an ideal teacher. He introduced modern branches such as genetics, cytogenetics and biochemistry at BHU.

When Ray-Chaudhuri moved to BHU, he continued to study chromosomes of grasshoppers, walking stick insects and *Drosophila* salivary gland chromosomes; but he also wanted to study the chromosomes of vertebrates, including humans, with modern techniques. Ray-Chaudhuri accepted me as his Ph D Student. I was to study the chromosomes of Indian species of bats from bone marrow samples, since at that time the laboratory did not have tissue culture facilities. One of Ray-Chaudhuri's senior students, who had undergone such training, provided me with the procedure for bone marrow preparation (no actual demonstration). I honestly and faithfully followed each step of the procedure. We were to use a trypsin solution for dissociation of clumped cells without actually knowing

the function of trypsin. I was using a massive dose, as suggested in the procedure. I worked day and night, seven days a week, for almost 10 months without seeing a single metaphase spread. It was evident to me that there was something wrong in the procedure. One day in the summer of 1964, I was examining my slides when Ray-Chaudhuri came by and asked, 'Pathak, are you satisfied with your progress?' I answered, 'No sir, how can I be satisfied about not seeing a single metaphase spread after 10 months of work?' I was informed that Ray-Chaudhuri had received a complaint that I was not working hard enough and that there was nothing wrong with the procedure.

That summer, G. K. Manna, a former Ph D student of Ray-Chaudhuri, visited BHU. While sitting in the cytogenetics laboratory, Manna asked me what I was working on. I explained my project to him as well as the problem I was facing. He suggested that I reduce the concentration or completely avoid using trypsin because that might be destroying the cell nuclei. Late that afternoon, after modifying the procedure, I saw for the first time metaphases on the very first slide. I was so excited that I could not sleep that night. The next morning I showed my preparation to Ray-Chaudhuri. This metaphase spread was the first preparation done with the 'modern technique' on vertebrate chromosomes in the cytogenetics laboratory and probably in India. Ray-Chaudhuri asked me to describe the technique step-by-step, and I described to him the modification suggested by Manna. Since then, the modified bone marrow technique has become a standard procedure for the preparation of vertebrate chromosomes.

Ray-Chaudhuri was an excellent teacher. One day in 1962, when I was a master's degree student, he came to teach us *Drosophila* genetics and described a phenomenon. Before he could name the phenomenon one of the students sitting in the back row of his class named this phenomenon. Ray-Chaudhuri appeared surprised and asked, 'Who said that? Yes! Come on, tell me'. Nobody in the

class was ready to utter that name again until he said, 'Yes, it is right'. This shy student who was sitting on the back seat raised his hand thinking that his teacher must be mad; but actually he was not. I was that student. From that day onward, I was being noticed in the class and his favorite words, 'Very good, very good', remained with me forever.

After receiving my Ph D in 1967, I was working as a senior fellow of the University Grants Commission, in the Zoology Department. Naturally, I wanted to proceed to the USA for further training. I wrote for a fellowship to a professor in Texas who was working on bat chromosomes at the time. I was prompted to do so by one of Ray-Chaudhuri's senior students, for whom I had great respect. The US professor did not write anything about the fellowship, but wanted my chromosome data on bats from the Old World to combine with his data on bats of the New World for publication. After receiving his letter I was very happy and thought that it would be nice if I could publish a paper with him. I, therefore, went to Ray-Chaudhuri's office to show him this letter. After reading this letter he got upset but finally, he cooled down and told me, 'Pathak! You belong to a poor country (India), and this professor belongs to a rich country (USA). As far as the quality of chromosome preparation is concerned, yours is in no way inferior to his. Write to him that you will not send your chromosome data to him and you will publish your own paper'. I did write to him accordingly. Before I came to Texas for post-doctoral training, Ray-Chaudhuri told me that my anxiety would vanish once I got to USA and saw that the chromosome research work done in India was of equally good quality. I could not believe how right he was until I compared my Ph D thesis with that of the American scientist who wanted my data. As a matter of fact, I taught all banding techniques to this scientist in T. C. Hsu's laboratory in the early 70s, and since then we have become great friends.

Sometime in the mid 1960s, six lecturer's positions were advertised in the Zoology Department of BHU. There were seven internal applicants, including myself. Everyone, was sure that I will be appointed. To our surprise, all the other six applicants were selected and I was not. It certainly made me sad, but I never asked my teacher why I was not app-

ointed. One day six months later as we were walking together, Ray-Chaudhuri asked me, 'Pathak, you never asked me why you were not appointed despite all your positive qualifications'. I told him, 'Sir, you must be having some reason for not appointing me and because of this, I decided not to ask you about it'. Then he told me, 'Pathak, I knowingly sacrificed the candidacy of my student because I wanted to make my colleagues happy by appointing their students for teaching. I wanted you to spend more time in research'. Later, I was lucky to go to Houston to T. C. Hsu's department and work on cancer-related problems.

After his retirement in 1971, Ray-Chaudhuri went back to Calcutta. However, in Varanasi, he not only established an active *Drosophila* research laboratory, but also expanded chromosome research from insects to reptiles, birds, mammals, and humans. His relentless pursuit of excellence, continued desire for exploring new research areas, and humane qualities inspired many young biologists and students. Although his administrative and educational responsibilities significantly reduced his own research time, he considered it necessary for the future of biological sciences in general, and genetics in particular, in India. I would like to quote a few lines directly from his handwritten letter that I received from Kurukshetra, India, where he was a Visiting Professor, in November of 1978. He wrote, 'I am trying to emphasize the molecular approach to cytogenetics to the staff and students of the Zoology Department here. This is the 5th University

where I am visiting and doing the same thing. I have to visit several other universities, and at each place I stay for a month. I am very much distressed to find that all these people are still in an archaic era. I know this. I do not know if I am able to make an impact on the post-graduate students at least. Some of them are very bright, but are always kept starved by their teachers. Maybe some of them are finding me useful'. This shows his desire to help, encourage and motivate young students. Ray-Chaudhuri continued such efforts until a ripe old age after returning to the Zoology Department at Calcutta University.

Ray-Chaudhuri was a great patriot and did not believe in brain-drain. Sometime in 1977, when I was already working at the University of Texas M. D. Anderson Cancer Center at Houston, he wrote me a letter from Calcutta University where he was working as Emeritus Scientist, encouraging me to apply for a Cytogeneticist position at Punjab University, Chandigarh, India. He wrote, 'Retiring Prof. G. P. Sharma would, strongly support your candidacy. If you feel that you can come and have a mind to serve your country, here is an opportunity'. I did apply for this position, but was not appointed.

In 1980, Ray-Chaudhuri visited USA. He was invited to our University, and presented a talk on 'Heterochromatization and differentiation of the sex chromosomes', which was well received. After this lecture, I took Ray-Chaudhuri to Galveston, and while we both were walking on the beach, Ray-Chaudhuri



From left to right: S. P. Ray-Chaudhuri, T. C. Hsu and S. Pathak. Photo taken in Houston in 1980.

asked me why I was studying cancer chromosomes? I gave him my detailed reply and then he told me, 'Next time when you visit India, I want you to give a talk in Chittaranjan Cancer Center in Calcutta and tell them why the study of cytogenetics is so important in the diagnosis, treatment and prevention of cancer'. He and his student G. K. Manna were the first in India to start a cancer cytogenetics laboratory in this hospital in Calcutta, but received minimal enthusiasm from local physicians. Ray-Chaudhuri was a pioneer in starting not only animal cytogenetics, but also cancer cytogenetics in India.

During his trip to USA Ray-Chaudhuri visited many cities and delivered a series of talks. While returning to India, he stopped to visit his students in Europe. After returning to Calcutta he wrote to me a letter on 3 June 1981 about his trip from which I am quoting directly. He wrote, 'You can imagine how pleased I was to see you people so well-liked and respected in your place of work'. What else can a 'true teacher' ask for from his students?.

Ray-Chaudhuri knew the technique of planting young seeds of scientific inquiry in the minds of his students. I personally feel very lucky and blessed to have had the opportunity to learn not only animal cytogenetics, but also human qualities

from him. Some of Ray-Chaudhuri's students have become authorities in their respective fields of research and administration, but he was not fond of administrative responsibilities. Once he told me, 'Never become Chairman of the Department. You will become a glorified clerk'. Because of their achievements, some of his students are worthy of mention here: G. K. Manna is Professor Emeritus in Kalyani University, T. Sharma is Professor Emeritus in BHU, P. G. Kale is still active in teaching and research at Alabama Agricultural and Mechanical University in Normal, Alabama and Lalji Singh is currently Director of the Center for Cellular and Molecular Biology, Hyderabad, India.

Ray-Chaudhuri was a positive thinker. During a conference at New Delhi sometime in the mid 1960s he was having dinner with several other delegates. One of the guests, who was then Chairman of Zoology in Delhi University and also a former classmate of Ray-Chaudhuri from Calcutta University, started a conversation regarding his recent trip to USA. He started speaking about how scientists in USA were criticizing Muller's hypothesis and his published papers. The intention was to humiliate Ray-Chaudhuri in front of other scientists. Someone asked Ray-Chaudhuri to respond. Instead of becoming angry Ray-Chaudhuri said

politely 'I am grateful to you Professor ... for bringing such good news about my mentor (Muller). It shows that scientists are very much interested in Muller's research and that the field of genetics is making tremendous progress in the right direction. But what happened to your Professor's field of research? It appears that what you and your mentor worked on has not changed in the last 30 or 40 years. Your science is at a standstill because no one is interested anymore in that direction'. This unexpected response of Ray-Chaudhuri made everyone burst into laughter and the dinner became more enjoyable. What a classic illustration of his positive thinking!

I hope I have succeeded in describing some of the contributions made by this great teacher and scientist, Prof. Ray-Chaudhuri, in the field of animal cytogenetics and showing his humane qualities by narrating some personal episodes. Without any hesitation, I would like to call him 'The Father of Animal Chromosome Research' in India.

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Errata

Species diversity and relative abundance of lichens in Rumbak catchment of Hemis National Park in Ladakh

Hans Raj Negi and D. K. Upreti

[*Curr. Sci.*, 2000, 78, 1105–1112]

On page 1108, 2nd column, the following equation was missing:

$$J_{xy} = \frac{C}{(A+B)-C}.$$

We regret the error.

Soft condensed matter physics

[*Curr. Sci.*, 2000, 78, 661–663]

The meeting report on 'Soft condensed matter physics' which appeared in the 25 March issue, was incorrectly attributed to Gautam I. Menon and K. R. Rao. The authorship should be credited to K. R. Rao.

MYCOLOGICAL SOCIETY OF INDIA

The Mycological Society of India (MSI) solicits mycologists to join the fraternity.

- The MSI was founded in January 1973 with a view to bring together mycologists of the country and with the broad objective of promoting the development of mycology in India in all its aspects and in the widest perspective.
- The transactions of the society are published in the form of the journal *Kavaka* (Sanskrit for fungus).
- Papers in all fields of mycology are published after peer-reviewing.
- No membership fees are required for publication of papers.
- Manuscripts for publication and books for review should be sent to: Prof. K. Natarajan, Editor of *Kavaka*, Mycological Society of India, Centre for Advanced Studies in Botany, University of Madras, Guindy Campus, Chennai 600 025.
- Annual subscription for members is Rs 100 in India and UK £10 or US \$ 20. MSI members will get free copies of the journal *Kavaka* and *Kavaka Varta*, the MSI Newsletter. Subscriptions in the form of a demand draft, in the name of 'The Treasurer, Mycological Society of India' are to be sent to Prof. D. J. Bhat, Treasurer, MSI, Department of Botany, Goa University, Taleigao Plateau, Goa 403 206.
- All general correspondence should be addressed to Dr S. Raghu Kumar, Secretary, MSI, Biological Oceanography Division, National Institute of Oceanography, Dona Paula, Goa 403 004.
- The present office bearers are: *President*: Prof. Indira Kalyanasundaram, Chennai. *Vice-Presidents*: Prof. H. C. Dube, Bhavnagar and Dr J. K. Mishra, Lucknow. *Secretary*: Dr S. Raghu Kumar, Goa. *Treasurer*: Prof. D. J. Bhat, Goa. *Members of the Editorial Board*: Dr A. K. Sarbhoy, Delhi; Prof. T.S. Suryanarayana, Chennai; Prof. T. N. Lakhanpal, Himachal Pradesh; Dr. C. Rajendran, Delhi. *Members of the Council*: Dr K. R. Aneja, Kurukshetra; Dr Kamal, Gorakhpur; Prof. S. B. Sullia, Bangalore; Prof. R. Balasubramanian, Chennai; Dr G. Bagyanarayana, Hyderabad; Dr R. G. Bagool, Dombivli; Prof. S. S. Rajak, Jabalpur; Dr J. G. Vaidya, Pune and Dr T. Satyanarayana, Delhi.

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6. Qualification: (Copies of school/degree certificate in proof of age and mark sheets to be attached).
7. Details of experience: (No objection certificate from employer, if employed).
8. Whether SC/ST
9. List of publications.

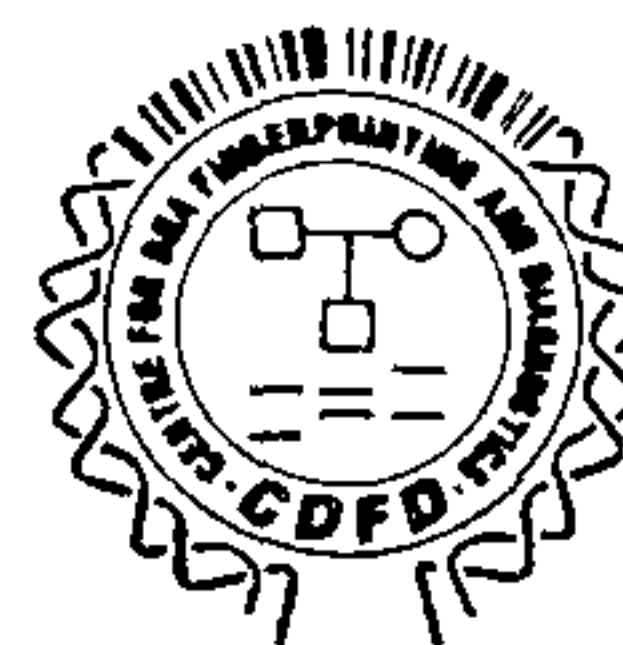
The application together with testimonials duly attested should reach the **Director, Indian Institute of Spices Research, Calicut 673 012** within 20 days of publication of this advertisement in *Current Science*.

No TA/DA will be paid to the candidates called for written test/interview. Candidates who can join within one month from the date of issue of offer of appointment only need apply.

CDFD **CENTRE FOR DNA FINGERPRINTING AND DIAGNOSTICS**

(An autonomous Centre of the Department of Biotechnology, Ministry of Science & Technology, Govt. of India)

4-87/1, ECIL Road, Nacharam, Hyderabad 500 076, India



Project Associate Positions

Centre for DNA Fingerprinting and Diagnostics (<http://www.cdfd.org.in>) invites applications from bright young scientists to work as Project Associates in intra and extra-mural funded research projects in the Centre. These purely temporary positions are for one year and can be extended by another year depending on performance. B.Sc. with Post-Graduate Diploma in Biochemical Laboratory Training with minimum 5 years relevant research experience; or M.Sc. with a minimum 2 years relevant research experience; or Ph.D. in Life Sciences with a consistently good academic record, as evident from publications are eligible to apply for these positions which carry a consolidated emoluments of Rs 9,660–Rs 11,960 per month.

Applications on plain paper with detailed CV/list of publications along with reprints and names and addresses of three referees should be sent to the Director, Centre for DNA Fingerprinting and Diagnostics, ECIL Road, Nacharam, Hyderabad 500 076, India, to reach him on or before 23 June 2000.

GUJARAT AGRICULTURAL UNIVERSITY

Sardar Krushinagar 385 506

Advt. No. 2/2000

Applications are invited for the positions of Junior Research Fellow (1 no.) from the Graduates of B.Sc (Agri.) First Class with one year experience or M.Sc. (Plant Breeding/Horticulture). Monthly emoluments Rs 3600 + HRA and Senior Research Fellows (6 Nos) from Post-Graduates of M.Sc (Agri.) in the disciplines of Plant Breeding/Horticulture/Soil Science/Agronomy/Plant Pathology/Nematology/ Entomology/and B.Tech. (Agril. Engg. First Class with one year experience or M.Tech. (Agri. Engg.) in the discipline of Soil and Water Engineering or its related discipline. Monthly emoluments Rs. 5000 + HRA.

Project duration: Three years and hence the appointments are purely on temporary basis.
How to apply: Interested candidates may send their application on plain paper giving full bio-data enclosing attested copies of certificates in support of educational qualifications, date of birth, experience, etc. to the **Director of Campus, Gujarat Agricultural University, Sardar Krushinagar 385 506, by 17 June 2000** superscribing the envelope for the post of Junior Research Fellow/Senior Research Fellow-NATP. Applications received after due date/incomplete will be rejected.

M. C. Desai
Director of Campus

DEPARTMENT OF CHEMICAL TECHNOLOGY
UNIVERSITY OF MUMBAI

Matunga, Mumbai 400 019

Applications are invited from Indian nationals for the position of a Junior Research Fellow under a scheme entitled 'Studies on processing and utilization of gamma irradiated oilseeds' sponsored by the Department of Atomic Energy, Government of India.

No. of positions : 1 (one)

Prescribed qualifications : B.Sc. (Tech.) degree in Oils Technology or M.Sc. degree in Organic Chemistry.

Remuneration : Rs. 5,000 p.m. and HRA as per rule.

NET/GATE qualified candidates will be preferred. Candidates awaiting the results of qualifying examinations are also eligible to apply. Selected candidates may register for higher degree subject to the approval of post graduate selection committee. Please send your application to the Director (Attn: Professor D. N. Bhowmick), University Department of Chemical Technology, Matunga, Mumbai 400 019 latest by 19 June 2000.

AIBA

AIBA AWARDS FOR 1999–2000

All India Biotech Association (AIBA), New Delhi instituted during 1997–1998 two annual Awards – one for an Individual Scientist and the other for an Industrial Unit. These awards, under both the categories, for the years 1997–1998 and 1998–1999 were given in November 1998 and November 1999 respectively.

For Industrial Units the AIBA Awards are considered for Biotechnology innovation including launching of a new product as a result of indigenous Research and Development. It can also be granted for export performance or concept promotion. For Individual Scientists, the awards is given for developing a new product through R&D work, which can be commercially exploited or which has already been commercialized. This can also be considered for the best published paper in a particular year. Up to three Awards for Individual Scientists in the field of agriculture, industrial products and healthcare are generally considered. The selections for grant of AIBA awards are done by a selection committee comprising eminent Scientists/Experts in the field of Biotechnology.

Entries for grant of AIBA Awards for 1999–2000 under the two categories may be sent to Mr U. N. Malik, Secretary, All India Biotech Association, "VIPPS CENTRE", 2, Local Shopping Centre, Block EFGH, Masjid Moth, Greater Kailash-II, New Delhi 110 048 by **20th September 2000**. Prescribed entry forms shall be sent on demand.

Industrial Scientists and Industrial Units shall be considered for grant of AIBA Awards only if they enroll as AIBA members. Membership application forms shall also be sent along with the prescribed entry form.

BANGALORE INSTITUTE OF TECHNOLOGY

K.R. Road, V.V. Puram, Bangalore 560 004

Applications are invited from eligible candidates to work for three years on a research project on "Synthesis of industrially important esters using ultra large pillared layered smectites as catalysts" (sponsored by the DST, Government of India) at the Department of Chemistry, Bangalore Institute of Technology, Bangalore.

Position : JRF

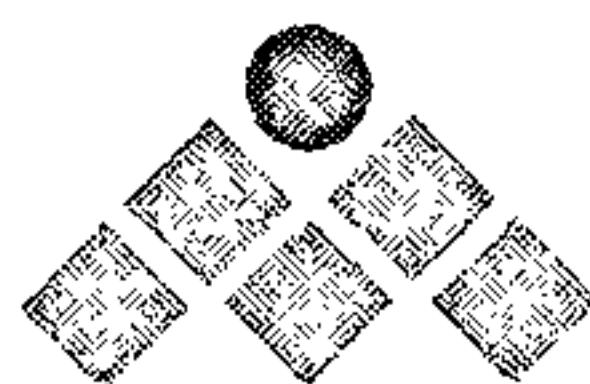
Emoluments: Rs. 5000 + HRA

Educational qualification: Post graduate degree in chemistry (any branch) with first class or high second class. Those who have appeared for the final year examination and are awaiting results can also apply.

Desirable experience: Those having experience in the preparation of catalysts and surface area measurements will be preferred.

How to apply: Applications typed neatly on plain paper with copies of documents should reach **The Principal Investigator (DST Project), Department of Chemistry, Bangalore Institute of Technology, K.R. Road, V.V. Puram, Bangalore 560 004** on or before **31 July 2000**.

PRINCIPAL
BIT



MANAGEMENT
SOLUTIONS INC

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We are seeking scientists and engineers from academia and high-tech industries who are interested in bringing their expertise and experience to work for them in the fast paced fields of *IT/Engineering/Telecommunications*.

We are interested in imaginative individuals in both the life sciences and physical sciences. Applicants should have five or more years of professional experience in one or more of the following or related fields: Systems Engineering, High-Tech Industrial Engineering, Applied Science R&D, Science and Technology Program Management.

The positions we are hoping to fill offer exceptional challenging opportunities for innovation and professional growth. MSI has many job openings around the world for Software Developers, Software Engineers, LAN Managers, and Algorithm Specialists.

We are prepared to provide additional training for select physical scientists interested in exploring a new career path. We work with the top companies in the IT, Engineering and Telecommunications industries from Silicon Valley California and around the world. Join the wave of the future by exploring a career in one of the industries – send us your resume by fax or email today!

Contact information: Management Solution, Inc. – Asian Regional Office, Bangkok. Fax: 662-655-5010, Email: Resume_Asia@mgmtsolution.com.