operations on aorta increase the risk for cholesterol emboli in the kidneys. Vidt emumerates a number of clinical conditions which can mimic CE and describes how CE can be distinguished from them.

Several reviews pertain to new therapeutic agents such as thrombopoietin, intravenous immunoglobulins, new generation beta blockers, mifepristone (proved useful not only for termination of pregnancy and as contraceptive but also for the treatment of endometriosis, fibroids and as anti-glucocorticosteroid agent), taxanes and naltrexone (approved by FDA for the treatment of alcoholism). There are comprehensive essays in which you will find how to differentiate variant forms of von Willebrand's disease, guidelines for the management of severe pre-eclampsia and evaluating patients for lung volume reduction surgery in emphysema, possible approaches to immunotherapy in paraneoplastic syndromes, a scoring system to objectively assess severity of urinary symptoms in patients with benign prostatic hypertrophy, treatment of primary pulmonary hypertension, temporal lobe epilepsy and pre-menstual syndrome, the usefulness of oral administration of antigens in the treatment of autoimmune diseases, techniques involved in the transplantation of haematopoietic stem cells, pathogenesis of renal osteodystrophy and criteria for the diagnosis of acute respiratory distress syndrome.

Despite technological advances and progress in our understanding of molecular basis of diseases, some medical problems remain difficult to manage and are important causes for morbidity. Among them are grief reactions in the elderly widowed people and the emotional and behavioural problems that occur following cerebrovascular stroke. These conditions are the themes for two separate articles. I found the rest of the reviews uninteresting.

To sum up, there are several treatises in the recent edition of *Annual Review of Medicine*, which are instructive to the specialists. Primary care physicians in the third world may not find these articles of any practical value. This is not surprising since nearly 85% of the contributors are from the United States and there is none from the developing countries. Possibly there is scope for another text, maybe an *Annual Review of Medicine in the Tropics*.

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Neotropical Companion: An Introduction to the Animals, Plants and Ecosystems of the New World Tropics. John Kricher. Princeton University Press, 41, William Street, Princeton, NJ 08540, USA. 451 pp. Price US$ 29.95.

Our yearning for surprise and wonderment is what sets the stage for discoveries. Biology is so attractive to many, perhaps because it is a discipline that is left with many surprises and an often chance for wonderment. What makes biology enchanting are possibilities as wholesome and surreal as our childhood hopes of turning little grasshoppers to parrots or the ant-lion larvae to elephants. Taxonomists made it boring; biochemists and others will squeeze the life out of it. I think one should get initiated in biology without Latin or reference to Lehninger to get the real feel for the wondrous beauty it is. Here is a book that will be an aid for such a pure joy of discovery.

Tropics can be either the 'Emerald paradise' or the 'Green hell' the way you look at it. It is verdant greens, colourful birds and butterflies, exotic fruits and a profusion of animal life forms for the aficionado. It may, however, be disease-carrying mosquitoes, botflies that breed beneath your skin, venomous snakes, vicious crocodiles, spooky spiders, scorpions that sting badly, and a climate reminding one of Dante's favourite place for others. But one thing that every one will agree is that it is not dull. This book is as exciting as the tropics itself. It is not a guidebook but genuinely a companion. One must read it and keep reading it. The writing puts it on par with good books in any class, well written with subtle humour but highly informative. It can be read any time at any page without losing contents. But if you intend to use it as a field-guide in its true sense this is not for you. It is not a catalogue of standard descriptions and exhaustive illustrations but draws heavily on Kricher's sojourns in the neotropics written with a view to inspire and educate. One misses nice pictures of tamarins and marmosets and many other species but then there are enough photo compilations elsewhere and that absence is made up by such evocative style of writing that reading this volume is bound to be a great satisfaction. The number of new species found, including recently discovered new primates, makes neotropics the region where more is yet to be found and learnt. Kricher's book sketches such a voyage of discovery but not in the style of 'armchair travelogues', which scale great heights in their ability to be boring and monotonous. A few samplers illustrate the style and content of this neat book.

Ant–fungus relationship evolved possibly more than 50 million years ago. Much before we were little furry rats scurrying between giant dinosaur legs, leave alone coconut-flinging monkeys, ants went through stages of hunter–gatherer, pastorals and slave makers. The leaf-cutter ants are really farmers who use the leaves to make media for cultivating a particular species of fungus. Kricher builds a truly wonderful story of co-evolution with this theme. The odd fungus, never found free-living outside fungus garden ant colonies, is the ant's only food. Leaves brought to the colony are cut into small pieces and chewed into soft pulp. Before placing the pulpy mass on the fungus bed, the ants defecate a drop of liquid, that contains all twenty-one essential amino acids, allantoic acid and allantoin, key ingredients needed for fungal growth. The chewed leaves are then added to the fungus growing bed, and fungal tufts are placed on top of it. Worker ants avoid leaves that contain chemicals potentially dangerous to their fungi. Fungi are always in pure culture, protected from contamination by 'weeding' other fungi. Without the ant's attention the fungi wither away. And finally when a queen ant founds a new colony, she takes some of the precious fungus with her inside her mouth! Some plants have even evolved antifungal compounds that make ants avoid such leaves since their fungus does not grow well even though the leaves are not poisonous to the ants.

The whole chapter on Neotropical Pharmacy is full of informative accounts. 'Tropical rainforests are green.

myriad leaves, large, small, simple and compound, adorn trees and vines from ground to canopy. Careful examination of leaves reveals that most show little if any damage from insects or herbivores. But why? The answer is drugs. Leaves of both tropical and temperate-zone plants are abundantly laced with noxious chemicals'... 'The world is not coloured green to the herbivores' eyes, but rather painted morphine, L-Dopa, cannabinol, caffeine, mustard oil, strychnine, rotenone.' Truly fascinating are the adaptations that allow for some to circumvent these defences. His conclusion at some point that evolution of intelligence in primates may have been affected to a considerable extent by the necessity to remember and recall as well as communicate with its kin, information on precisely the one poison-free tree from among a hundred others of the same species that are toxic, or a process or eating habit that will make the poison less serious, is remarkable. Plants produce alkaloids to protect themselves and insects evolve not only to detoxify but also use these in storage to protect themselves from predators while others mimic such warningly-coloured species to ward off predators. In the end we humans have learnt to use these as part of our pharmacopoeia. Much remains to be studied. Of the 250,000 species of plants, only 5000 have been thoroughly investigated as to pharmacological properties and about 120 plant-based prescription drugs are derived from hardly 95 species. Only 470 or 1% of Brazil's 50,000 flowering plants have thus been examined. At the same time he reports that the indigenous people have found 1500 species out of 596 genera and 145 families that have either medicinal or toxic properties... 38 plants that can be used for control of diarrhoea, 25 for headache, 18 for muscular aches, 36 for intestinal parasites, 38 for toothache... many plants for ant bites and snake bites, etc. Obviously not that these are efficacious or proven to be so, but the information and the fact that in the limited studies many useful things have come out makes enthnobotany and particularly that in tropics undeniably important.

Kricher's description of birds and animals are exemplary and each is a lesson in itself like he talks about hoatzins. 'This extraordinary bird is found along slow, meandering streams and oxbows within the Amazon and Orinoco basins. Hoatzins roughly resemble chickens in size and shape. However their overall appearance suggests a primitive almost prehistoric bird. An hoatzin is somewhat gangly, its body chunky, its neck slender, its head small... no one who ever sees an hoatzin forgets it. And usually you don't see just one... Hoatzins are among the only avian foliovores, feeding mostly on leaves, often from plants that are typically loaded with secondary compounds. Leaves are bitten off, chewed and ground into a large bolus within the bird's oversized crop. With the aid of an extensive microflora housed within the expanded crop and esophagus, the bolus slowly ferments and is digested. The birds benefit from some of the digestive products of their microflora, and the bacteria, which are as concentrated in hoatzins as they are in bovines, also help detoxify secondary compounds. The odd amalgamation of partially-decomposed leaves gives the bird an unpleasant odour, rather like cow manure. Baby hoatzins bear a superficial resemblance to *Archeopteryx*, one of the first birds whose fossilized remains established that birds evolved approximately 120 million years ago... when the dinosaurs flourished. Young hoatzins possess claws on their first and second digits, enabling them to climb about riverside vegetation. Juvenile hoatzins can swim and dive efficiently. Should they be faced with danger, they escape by dropping from vegetation into water. When danger passes they use their wing-claws to help in climbing back to vegetation.'

This book really is a general introduction to everything in the neotropics. It is a rather unusual book not encumbered by having to stick to a theme, other than having to do with the tropics. It has great wealth of well-researched information useful for the professional and yet very readable by a lay readership. It has plenty of tips for the prospective traveller whose tribe will only increase reading this adventure of sorts. Much of his valuable advice at the end is as suitable for tropics as to neotropics. He puts to rest unfounded fears and points out to the really worrisome aspects of journey in tropics with subtle humour.

It is easy to fall prey to an urge to preach when one writes accounts of nature. I am amazed at the professional restraint and matter-of-factness on several occasions when he has to deal with harm caused to nature by man. He seems to convey the beauty of the neotropics in a no uncertain manner and reiterates the need to preserve in a less pontificatory manner. Overall I highly recommended this book not only for nature lovers but also to supplement texts in biology in colleges. I wish biology was taught with the aid of such books rather than with an intimidating tree of classifications whose Latin terms were never clear to anyone for a long time and the only reason we remembered them were because they were so funny sounding.

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