

BOOK REVIEWS

Understanding Environment. Kiran B. Chhokar, Mamata Pandya and Meena Raghunathan (eds). Sage Publications India Pvt Ltd, B-42, Panchsheel Enclave, New Delhi 110 017. 2004. 331 pp. Price: Rs 280.

The life-supporting systems of the biosphere are being threatened due to deforestation, destruction of habitats, overuse of energy resources and environmental pollution. Changes in the earth's climate, decline and deterioration of natural resources, accumulation of waste products, soil exhaustion and destruction of ecosystems, are already apparent. Anthropogenic activities coupled with the burgeoning human population are responsible for the loss of a large number of life forms; numerous important plant and animal species are on the verge of extinction, while others are threatened or are vulnerable. In order to bring about sustainable resource conservation and management, it is essential to adopt different approaches for managing the ecosystem and biodiversity. To arrest the process of degradation and species loss requires specialized solutions and an understanding of ecological processes. Human beings have been interested in ecology since the beginning of civilization. Even our ancient scriptures have included practices and values related with ecological and environmental conservation. India is one of the mega diversity countries with Vavilovian centres of origin and diversification of cultivated plants, and endowed with rich traditional knowledge system. Currently, it is even more critical than ever before, for humankind as a whole to have a clear understanding of environmental concerns and to follow sustainable development practices. The need for sustainable development is a key to the future of humankind. The degradation of our environment is linked to continuing problems of pollution, loss of forest, solid waste disposal, and issues related to economic productivity, and national as well as ecological security. The increasing levels of global warming, depletion of the ozone layer and a serious loss of biodiversity have also made everyone aware of growing environmental concerns. Environmental management has gained momentum in recent years, with the initiatives focusing on managing environmental hazards and preventing possible disasters.

The United Nations Conference on Environment and Development held in Rio De Janeiro in 1992, and the World Summit

on Sustainable Development at Zoharbex in 2002, have drawn the attention of people around the globe to the condition of our environment. In order to achieve the goals of sustainable development, people need to become aware of the environmental issues and acquire background information to enable them to make and influence decisions. Environmental education is thus concerned with attitude towards and decisions about environment quality, with informed management of resources, and with the ethical considerations that relate to these. Recognizing the importance of environmental education at all levels, the Supreme Court ordered that a course on environment be made mandatory at the undergraduate level to sensitize the youth to environmental issues and concerns. According to the Supreme Court directive, the University Grants Commission introduced a six-month compulsory environmental course in all universities and colleges during the academic year 2004–05.

The declaration of the decade for Education for Sustainable Development (ESD) beginning 2005, by the United Nations has provided further impetus. The goal is to create a sustainable world through active participation of citizens. Thus, ESD is seen as a process that develops vision, builds capacity, and empowers to make changes in human societies. Education has a pivotal role to play in achieving a sustainable economy and society. The dilemma that an educator faces today, is that, by and large, academic institutions try to teach everyone to accept the economic system and to succeed within it. Unfortunately, that success pretty much guarantees the accelerated blighting of the planet and all living organisms, without exception. The cognitive and cultural separation of 'ecology and environment' from the human enterprise, has led to large scale degradation and depletion of natural resources. The guiding ideology needed to learn and teach sustainability is an orientation that emphasizes conserving cultural values, beliefs and practices that contribute to sustainable relationships with the environment. Perhaps the best way to see if institutions of education have begun to develop ecologically is to determine whether or not they acknowledge, in their structure, pedagogy and curriculum.

Environmental education would help recognize the importance of investigating the environment within the context of

human influences, incorporating an examination of economics, culture, political structure and social equity as well as natural processes and systems. Ultimately, the goal of environmental education is to develop an environmentally literate public. It needs to address the connection between our conception and practice of education and our relationship as human cultures to life-sustaining ecological systems. For each environmental issue there are many perspectives and much uncertainty. Environmental education cultivates the ability to recognize uncertainty, envision alternative scenarios, and adapt to changing conditions and information. The knowledge, skill and mindset translate into a citizenry that is better able to address its common problems and take advantage of opportunities, whether environmental concerns are involved or not.

Environmental issues make better sense when one can understand them in the context of one's own cognitive sphere. Environmental education focusing on real-world contexts and issues often begins close to home, encouraging learners to forge connections with and understand their immediate surroundings. The awareness, knowledge and skills needed for these local connections and understandings provide a base for moving out into larger systems, broader issues, and a more sophisticated comprehension of causes, connections and consequences.

The book under review by Centre for Environment Education (CEE) conceptualizes the environment as a multidimensional complex living system and explains the interlinkages among various functional components of the system. Beginning with basic concepts, 13 chapters cover a wide range of topics as well as pedagogical approaches (questions, exercises, etc.) that help in sensitizing readers to environmental issues and concerns. The chapters have a useful collection of references, so that students can acquaint themselves with the literature. The publication examines basic ideas of pedagogy and demands real thought on the part of the reader. Here, the reader is presented with instructional systems that consider performance-based learning (self-learning and evaluation: questions and exercises). Readers find themselves mobilizing a cluster of skills that together move them towards competency development. The publication should be on the reading list of university education dealing with this subject. For those working in this field,

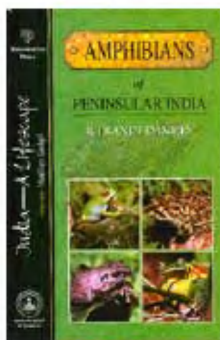
the path is made easier with this timely publication by CEE.

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Amphibians of Peninsular India. R. J. Ranjit Daniels. Universities Press (India) Pvt Ltd, 3-5-819, Hyderguda, Hyderabad 500 029. 2005. 268 pp. Price: Rs 315.

Frogs and toads have always fascinated man through the ages, dating back to *Mandukya Upanishad* of the Vedic ages to the recent discoveries in the Western Ghats. More technically known as 'amphibians' (Greek equivalent for their biphasic life stages as tadpoles and adults), these include caecilians, salamanders, newts, and sirens. Amphibians are in serious scientific contention over the last decade for at least two main reasons. One being far more crucial, pertaining to their viable existence as there are alarming indications of decline in their global population, and the other on the frequent discoveries from biodiversity hotspot regions like Sri Lanka and the Western Ghats of India, emphasizing the linkages of phylogeography, evolution, etc.

This book by Daniels, has landed in the stands at a right time, when more and more researchers are getting into the field of herpetology with a fewer number of experienced researchers remaining in it (or at least in this part of the globe). Indeed the book is a much-awaited one on amphibians, as the author did write a

series of field identification papers in *Cobra* during 1997, which were again an exceptional attempt in that period. In popularizing the subject, the structure and contents of the book are good and come out of the vast experiences and in-depth knowledge of the author in amphibian research. As the author himself admits, this book is written keeping in mind the students and amateur naturalists. It probes and compels the young minds into the field of research, especially while dealing with the suggested students' projects. Such an approach by a senior researcher highlights the openness of the author about the subject and also emphasizes the current research attitude that requires more openness to share information (more so to the younger generation).

All the chapters have been written in a crisp and lucid manner, and are certainly not loaded with details on anatomy, physiology and developmental biology, etc. of typical subject books, but have instead provided what is relevant to present-day research in the field. Suggested reading provides ample scope to the reader to go beyond the book. Keys to the species have been dealt with nicely with the inclusion of related taxa, life history, local names and remarks along with field characters, diagnostic features, habits, habitats and distribution. This has encompassed almost all the information pertaining to field identification of a species, which was earlier more fragmented pieces of information.

Though the book does lack the unique style of the author, which was prevalent in his earlier papers and books, it is more lucid. A few typographical errors (e.g. in p. 4, Rhinametridae, instead Rhinatrematidae) still persist in the book. Combining various existing names with their synonyms has added more confusion than the purpose for which it was written. As an example, the species account of *Hoplobatrachus tigerinus* has been detailed in p. 188. The synonyms of this species include *Rana malabarica*, which is a separate species by itself. This will lead to identity conflict of the species, as there is a separate description of *Rana malabarica* on p. 233. One might think that *H. tigerinus* and *R. malabarica* are the same species with two different names, which in a real sense is not true. The title for the sketches is really cumbersome and lists many common names (similar to that of synonyms as mentioned earlier). Instead of listing, the single name with its no-

menclature have been sufficient. Some of the sketches of amphibian species that seem to be computer morphing of colour photographs into black and white, do not reveal much about the species. This could have been substituted with photographs that would aid in easy identification. Similarly, sketches of tadpoles along with the adult without relative sizes does not seem to help students in the field, as the tadpoles grow in the beginning (increase in size) and undergo retrogressive metamorphosis (reduced size) before turning into adults. This is more evident in the tadpole sketches of *Rana curtipes*, *Rana aurantiaca*, *Nyctibatrachus major* and *Euphlyctis hexadactylus*. I do personally agree that when the live specimen is photographed, it is difficult to keep a scale, and moreover this will tarnish the reality of the picture. But as the intention of the book is to make both students as well as amateurs alike identify the amphibian, sketches without relative size hardly serve the purpose. The femoral glands in *N. major* are sketched closer to the groin; in reality it is further below and near the vent portion. Even such a minor error has great impact during field identification.

Good quality photographs are the best part of the book (except one from the author on *Euphlyctis cyanophlyctis*); however, they stand completely isolated without any linkages to the text part. Inclusion of glossary of terminology would have been an added advantage to students. Distribution information would have been more impressive if it had maps of peninsular India. A sentence about trap stealing in the field has stressed the extremities one might face in the field conditions. At the same time bringing in India into the issue may not have been right, especially when nationality and national pride are serious issues in young minds. Such sentences could have been avoided by the author.

There is no doubt that this book will go a long way as a pioneering field guide to the amphibians in the peninsular region and will be a recommended copy for both students and amateurs.

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