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## BOOK REVIEWS

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**ICARDA Annual Report-1983** (Published by International Centre for Agricultural Research in Dry Areas, P. O. Box No. 5466, Aleppo, Syria) pp. 264.

This beautifully prepared volume provides a lucid presentation of all the research and developmental activity at the International Centre for Agricultural Research in the Dry Areas, one of the leading international research institutes of agriculture. The ICARDA concentrates its attention on the problems related to agriculture in the desert and semidesert areas and, with the exception of kabuli gram, carries out research on the crops and areas nonoverlapping with the India-based ICRISAT. To that extent, the work at ICARDA is of direct interest to India and other adjoining countries with vast areas under dry farming.

As the present report indicates, ICARDA is working on farming systems, combination of animal maintenance and crop cultivation, and developing varieties with specific adaptability to the arid and semiarid regions. Although outside the geographic area of ICARDA's formal mandate, institutions in India have also benefitted from the research activity at this Centre.

The contents of the present report clearly show that the major emphasis at ICARDA is on applied work. This is quite understandable. But in today's world of space satellites and biotechnology, agriculture is not merely determining doses of chemicals, irrigation water and use of tillage equipment. Although their importance cannot be denied, it is also essential to understand the basic reasons why a particular crop species or variety needs less fertilizer and/or water. The fundamental problem is to maximise yield with minimum inputs. This will not be possible without understanding the basic reasons for differential requirements of different species and genotypes. If institutes like ICARDA do not take up such issues, there is little hope of resolving them in the Third World countries which these international institutes are supposed to serve.

The ICARDA has taken up some aspects of basic research. Quite logically, the search for new genotypes begins with germplasm screening, and in this area ICARDA has contributed substantially. The two-way channel of germplasm collection and distribution has proved beneficial to many countries where resources

for global survey are not available. Detailed genetic analysis, ultimately leading to genetic engineering in crop improvement, should be the next step.

In general, the ICARDA Annual Report provides useful information about the problems and perspectives of agricultural research in a large and unique area. India stands to gain from the research activity of ICARDA.

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**Current Primate Researches** Eds. M. L. Roonwal, S. M. Mohnot and N. S. Rathore (Dept. of Zoology, University of Jodhpur, Jodhpur, India). 1984, pp XIII + 627. Price: Not given.

That primates as objects of research in biology and medicine are valuable needs no mention. However, the importance of primatology in understanding the origins of our own physiology and behaviour in an evolutionary context is not yet fully realized. Also, our interest in biological aspects of socialization has been growing only recently along with the realization of its importance. The intellectual challenge primates offer to the human mind emanates from the bewildering diversity of their social organization and the proximity of non-human primates to *Homo sapiens* in the evolutionary time scale. A deeper understanding of primates should therefore necessarily come from a wider framework of disciplines as was argued by Skolnikoff and Poirier in their well edited book, 'Primate Biosocial Development: Biological, Social and Ecological Determinants' (Garland Publishing Inc. New York 1977).

M. L. Roonwal and some of his associates, well known for their contributions to primatology, have edited a book, 'Current Primate Researches' through which they attempt to provide some perspectives of current research in primates, drawing as they do from

a wide spectrum of researches in ecology, evolution, sociobiology, physiology and conservation. The 74 empirical and theoretical contributions included in this volume are so diverse that therein lies strength as well as weakness. The strength is derived from the usefulness of the volume as a reference work for almost any one who desires to study aspects of primatology ranging from the external morphology of the spinal cord through the behavioural and evolutionary significance of tail form and carriage to the utility of primates in drug research. Perhaps the weakness, to some extent inherent, lies in that the book is a compendium of papers presented at an international symposium on primates, held at Jodhpur during 1982. This could have been overcome if the editors had made attempts to separate the chaff from the grain. Greater coherence and a purposeful focus could have been brought into each section, otherwise well organized, by eliminating quite a few abstracts and the abstract-like articles bereft of either data or discussion.

Lest the contribution as a whole be construed as of diminished value and significance, it should be added that all the five sections have some outstanding articles marked for their exhaustive data, depth of analysis and the volume of literature cited. The risk of failing to distribute credit fairly among all such authors is inevitable and must be taken.

In the section on 'Ecology and Population Dynamics', the discussion on the evolution of demographic patterns in the bonnet monkey by M. Singh *et al.*, is an interesting analysis of the cause and effect of shifting sex ratio at the adult stage in favour of the females. If the forced migration of sub-adult males by the dominant ones is the cause, the effect is genetically rewarding in that, all females who survive to reproductive age reproduce successfully whereas all males do not. Under the section, 'Morphology, Cytology, Systematics and Evolution', the review article by M. L. Roonwal on tail form and carriage from the behavioural and evolutionary perspective can perhaps be cited as the highlight of this section. The article is noted for its meticulous detail, of quantification of measurement of the tail position, clear photographs and illustrations to match the vivid descriptions and the use of tail position as a behavioural correlate in different situations of stress, aggression and hierarchy. The study especially on the 15 sub-species of *Presbytis entellus*, the long limbed and the long tailed langur, widespread over the entire Indian sub-continent, shows that there is sexual dimorphism in what the author terms as 'tail handedness'. In the case of

females the tail runs down the body sides so as to assume a left stance. To those who are interested in studies of brain-body relationships, it must be as provoking as it is revealing. In the section on 'Behaviour and Sociobiology', R. S. Pirta's discussion of the genesis of cooperative behaviour in rhesus monkeys (*Macaca mulatta*) living in urban and forest areas raises some intriguing questions. He advances the argument that mutual tolerance and cooperation among urban monkeys are manifest to a greater degree when compared to their forest counterparts (even though the former are relatively more aggressive than the latter), based on the survival of larger groups in relatively smaller areas around temples. It raises the question of urbanization and its effects on human societies. Not that such questions have not been examined by others earlier, as was pointed out by Pirta himself, but this study redraws our attention to the problem of proximate and perennial interest in the origins and ecological determinants of human social behaviour.

The contribution of S. Jayaraman *et al.* on the laboratory husbandry and breeding of the langur, *Presbytis entellus entellus* to the section of 'Physiology and Biomedicine' lends much needed hope to all those interested in raising primate colonies for research in biomedicine; for, their studies suggest a high percentage of fertility among langurs under laboratory conditions.

The need for and the methods of conservation of rhesus monkeys are discussed by C. H. Southwick and M. F. Siddiqui in the last section, 'Economic Primatology and Conservation'. However, the management of rhesus populations at levels where they do not pose a threat to agricultural crop or public health and safety is a serious problem which calls for intensive and careful search for solutions. As P. Saibaba and K. R. Bhardwaz mention in their article on 'Non-human primates in Research', in the light of their experience at the Central Drug Research Institute, Lucknow, India did play an important role in making non-human primates available to laboratories the world over till their export was banned in 1977. They claim that during the five years between 1977-81, the use of rhesus monkeys has increased in Indian laboratories and feel that the shifting of many WHO collaborative projects to India could be a reason.

The efforts of the editors in bringing together various aspects of current primate researches are laudable and there is little doubt that the book would be a useful reference work for those interested in

primates *per se* as well as those who are using primates as experimental models. The volume is dedicated to the memory of S. C. Makwana who died young and who made some important contributions to primatology.

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## NEWS

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### TODAY'S KIDS ARE FATTER, NOT FITTER

... "Can it be that in the age of health clubs, triathlons and Jane Fonda workout videos, America's teenagers and children are in much worse shape than before? The answer seems to be yes. 'Kids are less fit now than at any other time data has ever been taken,' says Don Haydon [Governor's Comm. on Physical Fitness, Texas]. Study after study has shown that young people's performance levels on various tests of physical endurance have declined over the past decade, so that an average teenager would now be hard-pressed to keep pace with a middle-aged jogger. In addition, as many as one-third of all children over the age of 12 have elevated cholesterol levels. The trend is especially worrisome, experts say, because poor fitness in childhood increases the likelihood of heart attacks and other ailments in adulthood. Warns

Guy Reiff [U. Michigan], 'Cardiovascular disease starts by the first grade'. . . . In the three-year Natl. Children and Youth Fitness Study released [in October 1984], researchers pinched the skin of 8,800 youths and measured the thickness of each fold. Then they compared the results to similar measurements taken during the past two decades. 'In our representative sampling of kids from fifth to twelfth grade, we found that both boys and girls were significantly fatter than those studied in the '60s,' says Lloyd Kolbe [U. Texas]."

[(John Carey & Nadine Joseph in *Newsweek* 1 Apr 85, p. 84-7 [pd 2606j]. Reproduced with permission from Press Digest, *Current Contents*®, No. 26, July 1, 1985 p. 10 (Published by the Institute for Scientific Information®, Philadelphia, PA, USA).]

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### IS EVOLUTION STANDING ON CLAY FEET?

... Scientists at the Natl. Aeronautics & Space Admin.'s Ames Research Ctr., Mountainview, Calif., "reported a major discovery that supports the emerging theory that life on earth began in clay rather than [in] the sea. The discovery . . . showed that ordinary clay contains two basic properties essential to life: the capacities to store and transfer energy. With such energy, coming from radioactive decay and other sources, the early clays could have acted as 'chemical factories' for processing inorganic raw materials into the more complex molecules from which the first life arose some four billion years ago. . . . This theory was a major departure from the prevailing 'primordial

soup' hypothesis, which was set forth in the 1930's by A. I. Oparin, a Russian scientist. In this view, vast stores of compounds that contained carbon and hydrogen and some other chemicals accumulated particularly in the earth's early waters. Energy from lightning and solar radiation then caused the compounds to evolve spontaneously into living matter."

[(John Noble Wilford in *New York Times* 3 Apr 85, p. A1, A22 [pd 24971] Reproduced with permission from Press Digest, *Current Contents*®, No. 24, June 17, 1985, p. 12 (Published by the Institute for Scientific Information®, Philadelphia, PA, USA )]

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