

Book reviews

Biogeography and Ecology of New Guinea

Edited by J.L. Gressitt

Dr W. Junk, 2 vols, US \$195, DFL. 450

The opening sentence of this splendid work sums it up: 'New Guinea is a fantastic island, unique and fascinating'. The largest tropical island and the highest island (with glaciers), it features extraordinary bio-ecological diversity: some 9000 species of plants, many of them endemic; more than 200 mammals, almost two-thirds of which are unique to the island; at least 570 birds; 170 lizards; 200 frogs; probably 10,000 species of beetles, and around 20,000 species of other arthropods. Yet these figures, remarkable as they are, refer only to known and documented species: the numbers awaiting scientific attention could well be much greater. Along the southern edge of the island the climate is seasonal, thus engendering ecological variety, and the geologic upheavals of the recent past have induced sufficient 'creative disruption' to stimulate the 'complexifying' processes.

Perhaps the most salient statistic is that of the human populace, a mere 3.5 million, mostly subsistence peasants plus a few hunter-gatherers. This means the island has been little disrupted through the hand of modern man, and there has been next to no outright destruction of forest that now characterises most other islands of South-east Asia (though a Japanese paperpulp enterprise is clear-chipping a forest tract around Gogol). To the scientist, the island presents an opportunity to explore any questions of basic biology and related disciplines. To the conservationist, the island still affords opportunity to 'do things right' from the start.

All the more welcome, then, are these two volumes that set out, in exceptional detail, the story of New Guinea. The seven parts review the general physical background, the repercussions of man's intrusions, the vegetation and flora, the vertebrate fauna, the biogeographical framework, the ecological context, and the conservation challenge. The 50-odd chapters are written by acknowledged authorities in their fields, making this a very solid publication that deserves to remain the definitive work for some time to come. Fortunately, moreover, the wealth

of documentation, analysis and interpretation is put over with a style and spirit that prevents such a heavyweight work from becoming too stodgy.

Norman Myers

Darwinism Defended; a guide to the evolution controversies

Michael Ruse

Addison Wesley, £6.95

For a century it has been taken for granted that Darwin had solved the question to why there is a myriad of species on earth. Many people now think otherwise and the theory of evolution by natural selection is under assault from several branches of enquiry; some philosophers think that the theory is nothing more than empty rhetoric, some scientists think evolution occurs in jerks and thus negates the gradualist requirement of Darwin's theory and others believe that the patterns of life on earth are by the hand of an omniscient creator. *Darwinism Defended* celebrates the life and work of Charles Darwin in the centenary year of his death. It assesses the theory of evolution from a historical and philosophical perspective in a beautifully written and humorous, non-technical style in an attempt to undermine the attackers of the theory. Superficially it seems to do the job perfectly and looks like a nice book to give to students. On closer inspection Michael Ruse is out of date. His defense is for tradition—traditional systematics, dismissing modern overhauls such as cladistics with disdain, traditional ideas on neo-darwinism and support for some of the more curious and unscientific developments in evolutionary theory such as the doctrine of sociobiology. Mutations, heredity, variation and natural selection all of course happen, but neo-darwinism is a too simple and insufficient theory of genes for the phenomenon it seeks to explain—the evolution of forms. The treatment of these subjects is nothing better than can be found in a variety of other textbooks. Totally missing are discussions on rational form and so Darwin's modern rivals such as Riedl, Grassé, Thom, Prigogine, Saunders, Ho, Balanovski and Goodwin, to mention but a few, do not get a mention. In much the same way as plate tectonics upset the geological view of the earth, eventually interesting new developmental

Oryx Vol 17 No 1

Book reviews

studies will upset current orthodoxy in evolutionary thought. Is Darwinism really worth defending?

C.J. Humphries

Sea Guide to Whales of the World

Lyall Watson

Hutchinson, £12.95

This is an attractive book, beautifully produced and easy to read. The main part is the Sea Guide, in which Lyall Watson sets out to provide a description, illustration and distribution map of every species of living cetacean. There are also simple keys for determining the identity of whales sighted at sea or stranded on beaches. Besides this, there are supporting chapters covering subjects such as cetology and cetologists (a useful one, this), stranding, general natural history, and what to do if one finds stranded whales.

The plan of the book is excellent and the price reasonable. I only wish I could recommend it highly. Unfortunately, it is marred by a large number of errors, and some perverseness on the part of the author. The latter consists of the arbitrary re-naming of a number of cetaceans which already have accepted vernacular names. This will confuse anyone referring to other books, but will annoy only those already familiar with the cetacea. The errors are another matter, for they will mislead. Partly this is a matter of the 'state of the art'. Many species of cetaceans are really insufficiently well known to be afforded the treatment adopted in this book. World distribution maps cannot be prepared from a few stranding records, nor can portraits be drawn from inadequate descriptions. It is notoriously difficult to depict the colour of living whales and dolphins, which may appear to change according to the direction of the light. The author has provided a colour chart, which is admirable, but in some cases the colour of the illustrations do not match the descriptions, or colour names are used which do not appear in the chart.

I think this book will help a lot of people to enjoy watching whales, and provide names for most of the species they see. However, even with experience, it is difficult to identify many whales in the water, and I think this point is insufficiently stressed in the book. When a second edition is

Book reviews

called for (and I am sure it will be), I hope the opportunity will be taken to ensure that the text is accurate and recognise uncertainty where it exists.

Nigel Bonner

Bird Migration in Africa: movements between six continents

K. Curry-Lindahl

Academic Press, Vol. I £41.40, Vol. II £20.60

A very great deal of work went into this compilation. Much is distilled into multi-paged tables and into half-page maps of migratory distributions and movements. Not a book for easy reading, it is a source book of the African avian scene which the author has known so well over so many years. Its lengthy gestation, from 1961 to 1977, was inevitable in view of his many journeys and other conservation commitments. But the subsequent delay in bringing it to publication means it has become somewhat dated. We have become resigned to high prices from this publisher, but £62 will put these volumes beyond the reach of most individuals. Matters were not helped by giving the same preface, contents lists and index, etc., in both volumes, an unnecessary (and somewhat confusing) duplication of 63 pages. Indeed one might question the need to split the book into two at all, with an inevitable increase in binding costs.

Following, as it does, Reg Moreau's magisterial volume on African bird faunas (1966) and Palaeartic-African bird migration (1972), the present work must cover much previously known ground. But this is recognised and efforts are made to fill gaps left by Moreau and in particular to deal far more extensively with the migration of African birds within their own continent.

Apart from presenting the basic information on migrants and their migrations, there are brief discussions of a variety of topics. The last, on the relationships between migratory birds and man (Conflicts and Advantages) is, as one would expect of a Vice-President of the Society, especially illuminating.

G.V.T. Matthews

49