

curriculum I have not encountered earlier – but it is none the worse for that. In fact, if this environmental/ecological/historical/anthropological book is anything to go by, there is a need for such all-embracing chairs.

ANTHONY SMITH

**The Wild Sheep in Modern North America**, edited by J. B. Trefethan. Winchester Press, New York.

Coming on top of Dr V. Geist's monumental study of the behaviour and ecology of wild sheep in Canada (reviewed in *Oryx*, May 1973, p. 129), this volume must make the American wild sheep among the best documented of any species of large mammal. It consists of the 'proceedings of a workshop on the management biology of North American wild sheep' held at the University of Montana in 1974, with contributions by wildlife biologists from every state containing wild sheep from Alaska to Mexico. Nineteen reports on the status of sheep in each state are followed by a chapter by Dr Geist on the general theory of management of mountain sheep and by the reports of four groups set up to make recommendations on the management of the four major races of sheep: desert and Mexican bighorn, California bighorn, Rocky Mountain bighorn and Dall and stone sheep.

The conference reports and discussions are reproduced verbatim and provide a valuable source of information on particular populations, but the lack of any summary or concise review of the status of the group as a whole will be a source of frustration to anyone trying to extract this information in the compilation of less specialised works. However, one saving grace in this respect is the provision, in a loose envelope, of a large map showing the location of the enormous number of isolated populations into which the sheep have been fragmented, coded to indicate the race concerned and its status.

The sheer number of contributors represents a great wealth and diversity of experience in managing ungulates for a variety of purposes – experience that could well be relevant in other species. One of these purposes is of course trophy hunting which appears to generate a language of its own – in Colorado, we are told, 'the older animals are all broomed off to less than full curls'!

G. B. CORBET

**Biogeography and Ecology in the Canary Islands**, edited by G. Kunkel. Junk, (Monographiae Biologicae vol. 30) 160 Dutch Guilders.

The opening up of easy access to the Canary Islands in the last two decades has meant not only a vast increase in tourism, with its consequent benefits and dangers, but also increased opportunities for scientists to visit and explore the islands; as a result, more knowledge has been obtained about them in the last 25 years than in the previous 150, as Dr Kunkel points out. This is but one example of the recent greatly increased interest in the biology of islands and archipelagos, which can tell us so much about plant and animal distribution, survival and evolution.

This volume, one of the publisher's long series of scholarly monographs on biogeography and ecology of various areas of the world, is a book for specialists; it is not for the amateur naturalist seeking general information for a visit to the Canary Islands. There is, however, a great deal of useful information here, but some of it is not easily accessible even to the trained scientist. Here the blame must be placed at the publisher's door. The contributors were evidently asked to write in English, and the publishers should have provided expert assistance in rendering the manuscripts into correct English. In some places it is quite incomprehensible, which is unfortunate both for the reader who cannot understand it and for the writer whose efforts have been wasted. I am sure the editor (also not English) has done his best,

but too much has been asked of him when only two of the contributors have English as their mother tongue. Despite this, for the well-informed reader prepared to put in time and effort, there is much that is useful and fascinating on history, anthropology, geology, climate, lichens, fungi, native and introduced higher plants, reptiles and amphibians, beetles and birds – unfortunately the chapter on birds is in Spanish, but the lists and tables in it are very helpful.

In summary, this book gives a rather incomplete and patchy account of the islands' flora, fauna and people. At its rather frightening price (over 7p per printed page) few outside specialist libraries will be able to afford it. For the scientist working in the islands, it will of course be an essential reference book.

S. R. J. WOODSELL

**Flora Europaea** Vol. 4, edited by T. G. Tutin and others.\* Cambridge University Press, £25.

Volume IV of *Flora Europaea* is the largest yet, over 500 pages at nearly 5p a page, and it continues the high standard set by its predecessors. The bulk of this volume is taken up by the enormous family *Compositae*, containing such terrifying genera as *Centaurea*, with 221 species recognised in Europe, and *Hieracium* with 260. Of course with a genus like *Hieracium* the actual number is a matter of personal taste, and it is nice to see that the authors of *Taraxacum* have reduced the genus to 30 main species, each with a constellation of 20 or more associated species which most of us can reasonably ignore. Nomenclatural changes are refreshingly few, though *Gnaphalium* and *Filago* have been split up into some rather unpleasant sounding new genera, and *Pilosella*, which most of us had got used to separating from *Hieracium*, has been sunk again at the behest of the editors.

There is no doubt that when in 1978 Volume V, the final volume of *Flora Europaea* appears, it will be a major biological event. To have a standard work on an area as large and diverse as Europe will be of incomparable value to all field biologists. All who have already bought the first three volumes will want Volume IV, although in view of the way prices have increased since the first volume in 1964 – Vol 2 in 1968 cost seven guineas – they may look forward to Volume V with some trepidation.

A. H. FITTER

\* The other editors are V. H. Heywood, N. A. Burges, D. M. Moore, D. H. Valentine, S. M. Walters, and D. A. Webb.

**Pathway to the Wild**, by William Condry. Faber and Faber, £5.50.  
**Birds of the Air**, by Eric Simms. Hutchinson, £4.50.

I found as much pleasure in getting to know the author of *Pathway to the Wild* as in the subject matter. William Condry is a champion of wild places wherever they be, a critic of the inadequate protection afforded to land designated 'national park', and an enemy of exploiters, developers and big business setting their sights on the world's dwindling wilderness areas. He tells us that he was paid the compliment of having aroused the wrath of Rio Tinto Zinc after writing in *The Guardian* of their proposals for open-cast mining and other horrors in the Snowdonia National Park. Yet we may be sure his comments were temperate, accurate and timely. On the other hand he is not indifferent to people, and as the warden of the RSPB bird reserve of Ynys-hir in mid-Wales, he speculates on whether such reserves may not in the long run prove more beneficial to the human visitors than the wild inmates: which seems to push the argument too far after reading of so many pressures on the countryside from so many quarters.

Three chapters describe short visits paid to the Burren in Co. Clare, the Swiss National Park and the Arusha National Park in Tanzania, where he and his wife stayed several months. Other more discursive chapters, which suffer from compres-