

Jordan problem can only be solved if heed is paid to Max Nicholson's masterly report on "The biological productivity of the desert and a long-term plan for effective measures of conservation", and conservation means not only the wildlife and flora, but primarily the vegetation and forests, and the water supplies and their development. The expedition's brilliant, twelve-member team, each highly qualified in at least one aspect of the programme, could not fail to produce results of outstanding and lasting value. The book is profusely illustrated with a remarkable selection of Eric Hosking's 4,500 photographs, the matchless quality of which is only surpassed by the diversity of subjects—vertebrates, insects and flora—including novelties which never before had faced a camera, although for the wildlife the situation is a dismal, well-nigh disastrous one. The abundant animal and bird life, vegetation and forest of only a few decades ago have mainly disappeared. The oryx and the ostrich are gone, the gazelles and the houbara bustard are near vanishing point, and the devastation of the vegetation appears past redemption. Yet throughout the operation, a striking feature was the steady, day and night, westerly movement of migrants, large and small and in great variety, on spring passage; 216 species were identified of which 86 were passage migrants only.

The enthusiasm of King Hussein and his ministers augurs well for the future, and though the practical difficulties of any programme of regeneration are appalling, a commendable start has already been made. May Jordan prosper! This book is to be highly recommended, will have a wide appeal, and is worth while for its superb illustrations alone.

C. R. S. PITMAN.

**The Puma**, by Stanley P. Young & Edward A. Goldman. Constable, 18s.

**The Wolves of North America**, by Stanley P. Young & Edward A. Goldman. 2 Vols. Constable, 16s. each.

These reprints in paper-back form are welcome. They are built to a pattern by two wild-life biologists who have worked on the species in the field and have thereafter combed the literature thoroughly and judged it critically. The authors have also gone over the museums and the taxonomic literature in careful manner to provide a reliable and up-to-date section of each work on regional types and sub-species of these animals.

The puma, mountain lion or cougar, and the wolf were among the widest distributed of all animals on the continent, which fact indicates the wide distribution of hoofed game. But the wolf does not go farther south than the Mexican plateau, whereas the puma goes on through to Patagonia. The puma does not appear to be found farther north than north British Columbia, and then not on the west coast. Yet there are constantly rumours of this animal being seen in Alaska. I think the wish is father to the thought, and may indicate the hidden confusion in the American mind, which has pushed the mountain lion back into the Rocky Mountains and the south-western States, and yet greatly admires the animal and would be glad to see it farther afield. From my own enquiries, it would seem that the puma is losing out: even in the large national parks like the Grand Canyon, the species is not holding its own. The puma travels and needs a lot of room. No national park is big enough to give it effective sanctuary; and when you have such absolute land-using rights as to own an in-holding of 10,000 acres *within* Zion National Park, it is possible to arrange for a hunt with dogs within the boundaries of the park; not in the land owned by the National Park Service of course, but how do you stop a pack of dogs in that difficult country?

The wolf also ranges widely. It has been pushed back to the north where it is constantly harried, and to the south in Mexico where measures are less systematically efficient. A most interesting group of timber wolves from Canada exists in Isle Royale National Park and animal ecologists

have been able to observe over a period of years how these animals prey on the moose population and keep it within reasonable numbers for the range. One-track-mindedness still allows the wolf to be hunted in Alaska by airplane, but now only on licence as a sporting amusement. It is quite horrible than an animal should be chased relentlessly in all its doublings to and fro until it surrenders with the gesture of rolling over on its back. That is when the sportsman shoots it. In other words, when a fellow puts up his hands, that is the moment to shoot him. Cattle and wolves do not go together, but why wolves must continue to be killed where there are no domesticated stock is a mystery of human psychology.

F. FRASER DARLING.

**African Wildlife**, by **Franz A. Roedelberger** and **Vera I. Groschoff**. English Version by **Nieter O'Leary** and **Pamela Paulet**. Constable, 45s.

Reviewers usually start their brief sermons with an arresting phrase or a statement about what they do or do not know about the subject matter. I want to say as forcibly as I can that, as a professional science writer and amateur photographer with a pronounced interest in African wildlife, I consider this to be the best collection of African wildlife pictures I have ever seen. You can rely on an intake of breath on almost every page. The book opens theatrically with an upsweep of the curtains. Two pages are devoted to an aerial photograph of some hundreds of elephants. The scene changes to equally astonishing numbers of lechwe, waterbuck, Cape buffalo, a profusion of pelican, hippo, cormorants, crocodile, glossy ibises, lesser flamingo and giraffe and then shows more intimate shots, each of outstanding photographic quality, of almost all the animals most of us are interested in. The scope ranges from big mammals to their smaller brethren with many pages devoted to colour shots of birds, invertebrates and fish. Life-sized chameleons have been photographed against a background of scarlet flowers, striped tree frogs are more vivid than a poster, whilst fire-fish against coral can be likened to nothing more striking than what they look like at close quarters.

The text is something considerably more than just the usual sort of verbal glue put in to justify the photography and link one series of pictures with another. The authors have got that feeling of the one-ness of life and have expressed accurately and briefly what conservationists are concerned about. Without smudging this brief notice with an excessive number of superlatives I want to say once more that I cannot envisage a better compilation of photographs and text than what is offered here at a reasonable price. I recommend it with the utmost confidence and warmly congratulate those who put it together.

JOHN HILLABY.

**The Great Arc of the Wild Sheep**, by **James L. Clark**. University of Oklahoma Press, \$6.95

Of all the big game trophies of the world, the sheep is probably the most prized, for to find his quarry the hunter must take to the high mountains—in short he must follow the Great Arc of the Wild Sheep, the shape of which, suggests the author, resembles their long, curved horns. This arc runs from the western part of North America, across eastern Siberia, down through Central Asia and terminates in the Middle East. Nowhere else in the world are true wild sheep to be found, and none occur south of the Equator. The author gives a brief description of the various species and sub-species of sheep, with details of their habitat, colour and some typical measurements. To those unfamiliar with the grandeur of some of these fine animals it will no doubt come as a surprise to discover that the shoulder height of some of the Tibetan argali, such as