

£7 apiece, but this one will be quite out of reach of most individuals. It is much to be hoped, however, that it will get a wide circulation in Arabia so that those in authority may learn how interesting is the mammalian fauna of their region and of their responsibility for its conservation: that they could not have done had it not been for Dr Harrison's work.

CRANBROOK

The Serengeti Lion, by **George Schaller**. Chicago UP, £5.65.

The Spotted Hyena, by **Hans Kruuk**. University of Chicago Press, £6.75.

George Schaller is exceptional among wildlife biologists. He persists in selecting distant and difficult subjects, tackles them in a scientific manner requiring the utmost concentration, and then, in record time, writes up his results into book form. *The Serengeti Lion* is no exception to the trend; indeed, it is his most exhaustive work to date.

He covers the lion's behaviour and ecology, with a chapter each on the leopard, cheetah and hunting dog, and a summary on predation. Many of his behavioural findings are entirely new to science. For example lions can be divided into resident and nomadic groups, the latter often ranging over areas of more than 4000 sq km. The resident prides have a closed social system in which all lionesses are genetically related; the nomadic groups are open, with animals joining and leaving at intervals.

Special attention is given to the subject of predator-prey relationships, and the variety of anti-predator responses he observed are particularly interesting. Small prey such as reedbuck and bushbuck or young of gazelle or eland often escaped lions by crouching motionless, while larger, more conspicuous prey preferred to flee. The larger the prey the closer it would allow lions to approach before taking to flight. Surprisingly, although several authors have stated that lions approach their prey against the wind so as to escape detection, Schaller, after diligently recording the wind direction in 300 lion hunts, was unable to find any evidence of this.

Unfortunately the photographs, tables and text are divided into separate sections, with the result that every time one of the 43 photographs or 79 tables is referred to in the text the reader has to flip forwards or backwards to find it.

This book is to be highly recommended for both the serious wildlife scientist and student, and the interested layman who prides himself on having the ultimate that has been written to date on what there is to know about lions.

Hans Kruuk's book undoubtedly the most comprehensive ever written on the subject, is one of a scientific series on wildlife behaviour and ecology, but considerable effort has been made to find a satisfactory compromise between the lay reader and the student. The text is not difficult to follow. The author backs his statements up with data, but has done his best to express these in simply constructed chi diagrams and histograms, rather than in complicated tables. The numerous illustrations include nearly 60 photographs, chi squares and other statistical proofs, of interest primarily to scientists and wildlife students, have been discreetly reduced to footnotes, so as not to interfere with the flow of the text.

There is plenty to interest the general reader. Who, for instance, would have thought that the hyena's equivalent of a dog burying a bone is to carry a hunk of carcass to the nearest waterhole or lake and drop it in—a very practical solution to the problem of protecting carcass remains from vultures, lions and the like. Kruuk shows that hyenas have a

matriarchal society: the female is a little larger, and dominates over males, and she reinforces her dominance by displaying an erectible organ which looks like a penis. No wonder it was once thought that hyenas were hermaphrodites! He describes the respect hyena 'clans' have for the territories of neighbouring 'clans', often abandoning the chase of a quarry that crosses the boundary; how they participate in border patrols, and mark particular grass stalks between neighbouring ranges; how they employ special anal glands for 'pasting' the grass stalks, leaving a powerful scent 'rather like the smell of cheap soap boiling or burning'.

His most famous discovery is that spotted hyenas are very much true predators, catching and killing their own prey, quite contrary to the popular view that they live chiefly by scavenging. Indeed he points out, with photographs to prove it, that it is more often the lordly lion that lives off the scraps of the lowly hyena than the other way round.

I would highly recommend this book to anyone interested in what makes this fascinating animal tick.

PAUL JOSLIN

East African Mountains and Lakes, by **Leslie Brown**. East Africa Publishing House, Nairobi, Shs 21.00.

A Guide to Kenya and Northern Tanzania, by **David F. Horrobin**. Medical and Technical Publishing Ltd., Aylesbury. £3.35.

Although differing greatly in approach, style and content, both these books essentially combine business with pleasure. Each at its own level—in the one case broadly educational, in the other with an eye chiefly on the tourist—aims to instruct, readably and attractively, aided, for example, by the lavish use of maps and diagrams, and also illustrations of which the first has 45, some in colour, and the second 83, all in colour. On the whole, they are a refreshingly unhackneyed selection.

Readability, accuracy and careful planning are hall-marks of Leslie Brown's writing, and this 120-page paperback is no exception. He describes it as 'a vignette of things as they are now on the mountains and in the lakes of East Africa. . . taking into account the gradual natural changes that are inevitable, and hoping that the fate of both our mountains and lakes will not be one of ruin through man's folly'. This hope and the warnings that go with it are an underlying and recurrent theme, but are never allowed to become tiresomely didactic. The author is content to let his brilliantly perceptive picture of the current ecological scene, from the highlands of Ethiopia to Lake Malawi, speak for itself. Because the picture is deeply rooted in personal experience, it is perhaps a trifle blurred in places (notably in relation to some of the remarkable features in the south and south-west of the region), but this is off-set by the intimate and often very entertaining knowledge on which he draws. The result is a treasure house of significant observations, more particularly on the flora and fauna of some of the most richly endowed areas on earth.

Professor Horrobin's book, although dealing only with Kenya and, rather incidentally, those parts of northern Tanzania within easy reach of Nairobi, is more superficial. It aims to be 'a practical guide for either the local resident or the average intelligent visitor who is interested in everything but not an enthusiastic specialist in any particular subject'. The scope is, therefore, very comprehensive, covering evolution, prehistory and history of the land and its peoples; brief details of all the national parks and other places worth visiting, and interesting local species in each of the main