Book Reviews

Saving the Tiger, by **Guy Mountfort.** Michael Joseph, £7.95.

This book divides naturally into three parts: the life of the tiger; its near extermination; and the rescue campaign the author inspired and led, which brought this noble animal 'back from the brink'. The first and longest section summarises the available information, including the results of the latest researches, on how tigers live, hunt, mate and rear their young. It discusses the different races, their distribution and their estimated numbers. Next there is an account of how the tiger, from being a numerous species that once dominated Asia, was, within a few decades, reduced to small scattered groups totalling perhaps 5000. Finally Mr Mountfort tells the story of how Operation Tiger was organised under the banner of IUCN and WWF, with the result that well-managed reserves today exist in a number of countries.

This campaign was probably the most important of all those promoted by the author. Not only did it give new hopes for the survival of the tiger, but it necessarily led to the preservation of its habitat and thus of a wide spectrum of fauna and flora. Moreover, its success depended on the wholehearted co-operation of the governments concerned and demonstrated the growing commitment of 'third world' countries to conservation. Not least, the success against all the odds of this daunting crusade gave encouragement to conservationists everywhere and emphasised the key importance of habitat protection – which remains the critical factor in conservation.

The 123 illustrations in colour and black and white match the quality of the writing, which is only what the author's previous books would lead one to expect, but it is a real achievement to have produced such variety in pictures embellishing a text devoted to a single species.

G.T. CORLEY SMITH

Island Populations, by **Mark Williamson.** Oxford UP, £19.00.

Islands have fascinated biologists for so long that it is easy to think that we know all there is to know about them. Since Darwin and Wallace's work over a hundred years ago, their natural history has been studied by generations of biologists, yet the number of books on the subject is small. This is particularly striking to conservationists, who recognise that a very high proportion of threatened species are confined to islands. For the last two decades, island studies have been dominated by the theoreticians, who have sought to apply MacArthur and Wilson's equilibrium theory (*The Theory of Island Biogeography*, Princeton 1967) to oceanic islands and, more recently, to nature reserves, 'islands' of semi-natural habitat in a sea of altered vegetation. Although this theory concerns only the number of species on islands, and says little about the much more interesting problem of the evolution of new species there, it has abosrbed workers in the field, and theoreticians in their laboratories, to the exclusion of more traditional biological and natural history studies.

Mark Williamson's book is a welcome and refreshing appraisal of current work. It begins by setting the physical and biological background to island life, briefly sketching in the origin of islands, their climatic history, and general features of biogeography. The classic features of island life are reviewed briefly, before launching into current theories of species numbers. The section on evolution is followed by the final section on competition, feeding and predator-prey relationships. Throughout the author is balanced and critical, re-analysing many data rather than accepting the original author's own interpretation and making a number of important contributions to theory – notably on density compensation.

This is very much a book for the student and the specialist; naturalists will I think not

find enough natural history, and many readers may be disappointed by the absence of any application of island theory to pseudo-islands such as nature reserves, but it is a good, clear and constructive book that makes a valuable assessment of the current state of work on island biology.

A.W. DIAMOND

Domesticated Animals from Earliest Times, by **Juliet Clutton-Brock.** Heinemann/British Museum (Natural History), £9.95.

Good, comprehensive reference books on domesticated animals are few and far between. Zeuner's *History of Domesticated Animals*, published in 1963, has long been difficult to obtain and most others deal only with the more obvious species, or are superficial. Dr Clutton-Brock's book almost fills the gap – almost, because a few species are not covered. Animals is restricted to mammals, and a few of the newer domesticated species (such as gerbils) are omitted, as are zoo-bred species such as macaques and some of the 'tamed' animals (such as duikers). Nevertheless the breadth of the coverage is impressive. A lucid text is illustrated with excellent line drawings and colour photographs, although some of the 'wild' species look as if they were captive! The reproduction of the black and white photographs is not always of a particularly high standard.

Domestication, probably because of its economic importance, is often a controversial subject. Dr Clutton-Brock asks why 'one species of animal is favoured as a supplier of meat to one nation, whilst to another it is considered a taboo animal, unclean and untouchable?'. Why should pigs be abhorred in some areas, but primary sources of meat in others? The origins of many domestic animals are also controversial, and not every taxonomist will agree with her views, but she presents a concise summary of many controversial areas – such as the origins of the domestic cat.

Domestication is of considerable importance to conservationists since throughout history (and prehistory) there has been a tendency to exterminate the wild ancestors or relatives of domesticated species – a process which continues today.

JOHN A. BURTON

Behavioural Ecology: an evolutionary approach, edited by **J.R. Krebs** and **N.B. Davies.** Blackwell Scientific Publications, £18.00 hardback, £8.50 paperback.

This is not just a collection of assorted essays, but a carefully integrated book. The offerings of the fourteen authors have a pleasing uniformity in style and level of presentation. The editors themselves have provided a very clear and competent opening chapter, introducing the ideas that permeate the rest of the book; that natural selection is concerned with gene survival, and that the optimal behaviour for the gene-bearing individuals to maximise their inclusive fitness will depend on the behaviour of other individuals and on the ecological circumstances.

The other 12 chapters are grouped into three sections, each introduced by a short but lucid editorial, reflecting the three main problems and animal encounters in its endeavours to maximise the survival of its genes. Predators and Prey considers in four chapters how and where the animal decides to feed, and on what food; whether foraging in a group is advantageous; the particular problems of insect sociality; how the animal avoids being eaten itself. Sex, Mating and Signals consists of five chapters covering the advantages of sexual reproduction; the mate to be selected; how such a mate is found; co-operative breeding; how and why animals communicate. Strategies in Time and Space devotes two chapters to considering how the animal deploys its behavioural options in space, taking up territory or selecting particular habitats, and two to