

Book Reviews

The Thames Transformed: London's river and its waterfowl, by **Jeffery Harrison and Peter Grant**, photographs by **Pamela Harrison**. Deutsch, £5.95.

It is all too rarely that we have such a conservation success story as the rescue of the Thames from the totally polluted state it had reached just after the war, nearly two-thirds of it due to domestic and industrial waste from sewage works. The process will only be complete when salmon can ascend once more from the sea to spawn in the Isis above Oxford, but what we have already achieved ranks as our second greatest single conservation achievement – after the creation of our system of national and county trust nature reserves. This excellent book chronicles the ornithological results, which have made the Inner Thames estuary, the 25 miles between London Bridge and Tilbury, once a desert for bird-watchers, into one of the major concentrations of waterfowl in the country, already almost of European stature – as 200 years ago it undoubtedly was. The major species to be seen now are mute swan – 377 were counted in Woolwich Reach in 1973 – mallard, teal, wigeon, pintail – once one of the scarcest London ducks – pochard, tufted duck and even scaup. They have come back because of the great increase in tubifex worms, algae and other foodstuffs, consequent on the abatement of the pollution. The other major achievement, the return of the fish – 86 species so far – to a previously almost fishless stretch of the river, is only briefly dealt with. Angling from Inner London piers and wharves is no longer a medieval memory, but a twentieth century possibility. Even salmon have appeared in the lower reaches, but their provenance has been queried. An ironic by-product is the return of the ship-worm *Teredo* to plague the wooden walls of piers and wharves, until recently protected by the poisonous nature of the river water. This admirably illustrated book also discusses at some length the wildfowl of the Kentish shore from Gravesend to Sheppey, and more briefly the opposite Essex shore.

The Thames estuary has been likened to a trumpet with London as its mouth-piece. This is a trumpet we must go on blowing.

RICHARD FITTER

Birds of Prey: their biology and ecology, by **Leslie Brown**. Hamlyn, £4.50.

Eagles of the World, by **Leslie Brown**. David & Charles, £4.95.

In this synthesis of the state of our knowledge about birds of prey the author discusses their world-wide distribution in the main biotypes; the range of physical and ecological adaptations, particularly the methods of predation they have evolved; and the relationship of predator and prey populations. Inevitably with a group traditionally persecuted in many developed countries, and threatened by pesticides and habitat destruction in the developing world, the concluding chapter is about conservation. Throughout he emphasises how limited our knowledge is; he believes that the greatest opportunities for furthering it lie in the tropics of South America, Australasia and Africa, in that order. But the book shows all too clearly how much we still need to know about much more accessible species. It is a telling statistic that of 287 recognised species, the breeding biology of 62 is still virtually unknown. The breeding habits of fewer than one-quarter of the total are well-known, and the picture is similar for other facets of raptor biology. In some cases the migration routes and wintering areas of relatively well-known species, such as Eleonora's falcon and the eastern red-footed falcon, are obscure.

Eagles of the World follows a similar outline but treats this magnificent group in detail. The chapters on food requirements, predator-prey relationships, population dynamics and conservation are for me the most interesting. The whole book is vitally enhanced by information from the author's own eagle studies in East Africa;

his account of the life stories of the crowned eagles at Karen is memorably illuminating. Again, there is the repeated emphasis on how little, rather than how much, we know; for example, of 59 species, the nests of 14 have yet to be seen, and the biology of many others is little known.

In both books the conservation chapters consider the range of problems facing raptors, from habitat destruction in the tropics to deliberate persecution in Europe and North America. The futility of destroying raptors which can at most only have marginal effects on game bird or sheep populations is clearly demonstrated. With Leslie Brown I conclude that until fines become less than derisory the law will be held in derision.

Both books are packed with data and contain valuable appendices summarising systematically much of our knowledge. Both have useful bibliographies, though regrettably no references are cited in the texts. More important, there are no contents pages for text figures or photographs, which is especially irritating in *Eagles* because it contains some valuable diagrams which stand by themselves as data summaries. The photographs in *Birds of Prey* (many in colour) are often splendid; those in *Eagles* are sometimes poor and cramped. But such minor quibbles should not be permitted to deter the raptor enthusiast or general reader from buying either book.

COLIN TUBBS

The Web of Adaptation: bird studies in the American tropics, by David W. Snow. Collins, £4.50.

This exciting book is about the lives of fruit-eating birds – cotingas and manakins – in the Guianas, Panama, Brazil and Trinidad. The author and his wife, Barbara, have unravelled the biology of these secretive birds through painstaking observation in tropical forest over the last twenty years. For those familiar only with birds of the temperate regions, their findings will be a real eye-opener. Imagine an area of forest clearing no bigger than twenty square metres with seventy male black and white manakins performing fantastic displays in a communal lek, making snaps, whirrs and grunts with their wing feathers as they leap between twigs at tremendous speed; or two or more male blue-backed manakins performing a 'catherine wheel' dance, or blue manakin males sitting in a row, each flying up to the female to 'kiss' her in turn. If these seem far-fetched how about oilbirds which nest communally in dark caves, finding their way about by echolocation like bats?

But the most fascinating aspect of this book is the way all the intricate adaptations of these birds can be brought together and understood in relation to their fruit diet. The birds do the trees a service by disseminating seeds; the more conspicuous the fruit, the more the seeds are dispersed, and so the birds in effect ensure for themselves an easy food supply. The author suggests it is the ease with which food is obtained that has emancipated the male from all nest duties because the female can feed the young by herself; this has led to promiscuity, lek behaviour and all the elaborate colours and displays of the males. Although some of the communal displays are interpreted as cooperative affairs, one wonders whether they may not rather be forms of male competition or interference. Despite the apparent superabundance of food, clutch sizes are small; Snow suggests that this is due to the high risk of brood predation putting small, inconspicuous nests at a premium.

All this information, fascinating in itself, is also of vital importance for the birds' conservation. Expanding human populations, intent on short-term agricultural gain, are devastating the forests. In the final chapter the author lists no fewer than six species of cotingas threatened with extinction. It was always the old conventional wisdom in biology that 'complexity begets stability'. However it now seems that it is in fact the most complex ecosystems, like the tropical forests studied by the Snows, that are the least able to withstand man's relentless onslaught.

N. B. DAVIES