

maculatus migrate yearly to the high Himalayas and *lucidus* to ocean-girt New Zealand, whereas no species of *Chrysococcyx* bursts out of central Africa to reach Europe or the benign and fertile Mediterranean basin?

Is it not therefore reasonable to suppose that the morphological similarity of *Chrysococcyx* and *Chalcites* is the result of convergence? May not these two groups of small glossy cuckoos have evolved independently in what were far-separated but virtually unlimited areas of tropical rain forest, the one across equatorial Africa, the other around Indonesia? These richly diversified forests, both lowland and montane, encouraged a veritable explosion of genera and species not only among the passerines but also among the cuckoos which depend largely upon them. Mere morphology is not enough; yet even in this respect, *Chalcites* as a general rule, is more heavily barred on the underparts. The pattern of behaviour also seems to differ, *Chrysococcyx* being land-tied and comparatively sedentary, *Chalcites* much more boldly dispersive.

In the light of present knowledge — one is tempted to say ignorance — of the relations between the small glossy cuckoos and the host species which they victimise, it is surely wiser to retain *Chalcites* and *Chrysococcyx* as separate genera.

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REVIEWS

Seminar on the Takahe and its habitat. Proceedings, Te Anau, 5-6 May 1978. Prepared and published by the Fiordland National Park Board.

The proceedings contains a mass of information in its 273 pages. The papers presented at the seminar included such aspects as the history of the Takahe, population and feeding studies, and the Takahe at Mount Bruce. The vegetation of the Murchison Mountains in relation to the habitat of the Takahe, the significance of deer and stoats in the area, the impact of helicopter hunting, and the use of poisons all came in for review and discussion.

The seminar emphasised the complexities of establishing an effective means of protecting the Takahe, which is declining in numbers, and the necessity of much more research. However, it appears that the greatest predatory pressure comes from deer, which compete with the Takahe for food, and from stoats, especially in periods of peak numbers.

A paper on the effect of 1080 poisoning for opossums revealed that many birds are killed in the process and most unfortunately, such important insectivorous birds as the native Whitehead, Tomtit, Robin and Rifleman are among the victims. In view of the early assurances given by the State Forest Service and repeated by Pest Destruction

Boards, that 1080 had little effect on bird life, this disclosure is rather disturbing, though it must be stated that steps have now been taken to remove the "chaff" from the poisoned bait, the chaff being mainly responsible for the high death rate. It appears, however, that even with the elimination of the chaff, some mortality among birds is inevitable.

A three-year experimental project aims at improving the habitat by the application of nitrogen and phosphorus in selected areas with the ultimate aim of increasing the breeding success of the Takahe. This technique, it is claimed, has been successful overseas with the Red Grouse. The results will be awaited with interest.

— R. H. D. STIDOLPH

Endangered birds — management techniques for preserving threatened species. Edited by Stanley R. Temple. 466 pp. University of Wisconsin Press. 1978. \$US9.50.

This publication contains the proceedings of a 1977 international symposium concerned with new developments in active management techniques for threatened species. It is divided into ten parts: endangered bird problems and the concept of managing threatened species; increasing reproductive effort and success by reducing nest site limitations; alleviating problems of competition, predation, parasitism and disease; supplemental feeding and manipulation of feeding ecology; manipulating aspects of nesting biology; captive breeding of endangered species; genetic aspects of managing dwindling bird populations; reintroducing endangered birds to the wild; integrated approaches to management of endangered birds; summary.

Among the contributors are two of special New Zealand interest — Donald V. Merton on controlling introduced predators and competition on islands; and J. A. Douglas Flack on interisland transfers of New Zealand Black Robin.

Success or partial success is being achieved in many of the techniques indicated but the outcome is by no means assured as the pressures of the human population explosion, oil pollution, and the relentless worldwide destruction of natural habitat continue at an ever-increasing pace. As it is, some of the endangered species are being maintained in a semi-artificial state and are still at risk from the effects of agricultural and forestry chemical spraying. As the tropical forests continue to shrink, so will many more species be added to the endangered list. Some of the techniques being adopted are more or less specialised for one species and it is doubtful that, as the number of threatened species grows, adequate steps could be taken for each one individually. Desirable as these conservation efforts are, they are really at the wrong end of the ladder. The only effective means of preserving many species is by retaining their natural habitat — the whole environment — from the devastating effects of man's inter-