

## Book reviews

### FIRE AND AVIAN ECOLOGY IN NORTH AMERICA

Edited by Victoria A. Saab and Hugh D. W. Powell

2005. Studies in Avian Biology No. 30. Published by the Cooper Ornithological Society. 193 pp. Paperback, \$US18 (including shipping and handling), ISBN 0-943610-64-8.

Fire is a factor that affects the ecology and conservation of most birds – indeed most biota – in most of the world's environments. It is one of the few tools that managers can use to shape landscapes for conservation outcomes. Its characteristics are affected by a disconcerting variety of factors, including depopulation of indigenous peoples, climate change, livestock grazing, spread of weeds, and socio-economic issues (most notably the fear of loss of human life, infrastructure and harvestable natural resources). Fire regimes have a pervasive impact, but many land managers, as with the public generally, seem aware of the role of fire only when confronted with showings of its destructive power. This volume aims to provide a far more considered assessment of the role of fire in the ecology of North American landscapes, with particular attention to its impact on and importance to birds.

The review is structured around a series of 10 main chapters that each considers a major geographic region (together spanning most of continental USA and the Canadian Boreal Forest). Each chapter attempts to: discern a pre-European fire regime; describe the contemporary fire regime and the factors that have led to change from the pre-European regime; describe the environmental responses to changes in fire regime; list the threatened and other significant species associated with the region; review studies that have related bird responses to fire regimes; and list research and management priorities. These issues are each fascinating. The characterisation of historic fire regimes is a whodunit with insufficient clues, but the chapter authors variably use glimmers of information from early explorer accounts, from the management behaviours retained in some indigenous communities, from plant population and life history models, and from interpretation of the changed status of many species. The question addressed is 'What should these landscapes look like?' In many cases, the landscapes of today are notably different to those that prevailed under the long history of fire regimes managed by indigenous peoples. In many cases, the landscape change has been slow and incremental and we have been almost blind to the shifts. But the changing status of birds provides a marker of the extent and consequence of such landscape change, as the incidence, severity or absence of fire re-shapes habitat suitability for better or worse for many bird species.

Fire is a damnably tricky concept to manage. The impacts of fire will vary in different environments, with different fire intensity, frequency, seasonality and extent; the impacts will

depend upon landscape, land-use and climatic contexts; and short- and long-term impacts may be entirely inconsistent. Those who view fire management from the perspective of bird conservation may find even this narrow perspective baffling: 'For every sparrow that depends upon the seeds produced by recently burnt desert grassland, there is another that requires heavy grass cover that a fire temporarily destroys. For every bluebird that prefers an open pine forest, there is a towhee that does best when understorey foliage is dense. For every sapsucker that nests in fire-dependent aspen, there is a Mexican Spotted Owl that prefers a mature stand of mixed-coniferous forest' (p. 31). Even if ornithologists could define an ideal landscape (in the face of such contrasting demands), and had sufficient knowledge to identify and prescribe the fire regime that had to be implemented in order to realise that ideal, both that landscape configuration and fire regime would be likely to be contested by many other land users.

A historic feature recurring through most chapters is the attempt by land managers up to the mid twentieth century to exclude and suppress fire, most iconically represented by Yogi Bear and the US Forest Service. Across many regions, this reduction in fire frequency led to broad-scale vegetation change, but often also to the increased occurrence of high intensity 'destructive' wildfires. This was a management regime rooted in perspectives alien to these landscapes, and its detrimental consequences eventually forced fire management to be bound far more closely with ecological understanding. But in many cases, even advances in the sophistication of management cannot return landscapes to the way they were, or perhaps should be. The authors of many chapters describe how the imposition of preferred fire regimes may now be impossibly constrained by the spread of exotic plants (particularly pasture grasses), by the consequences of livestock grazing, by human settlement within natural landscapes, by competing demands from forestry and other land users, and even by environmental laws that limit smoke emissions. It is a virtue of this book that these issues are addressed, and that the information presented is highly readable and could be readily understood by natural resource managers with scant interest in birds themselves.

But of course this is a book about bird ecology and management. It provides a review of all studies that relate to the impacts of fire on birds in North America. I found the body of such studies surprisingly meagre. Despite the significance of fire in shaping the landscapes of this continent, there have been few systematic, long-term studies on the responses of birds to fire regimes, few carefully structured experiments, few modeling studies, and relatively little monitoring. Most studies described in this review were opportunistic, brief and narrowly focused. This shortcoming is explicitly recognised and deplored by almost all chapter authors, and most advocate a far more robust research program. Such a program will

be required to provide the burden of proof needed to be taken seriously in the current debates about fire management in North America, and to justify the conservation management perspective properly advocated in several chapters (e.g. 'there is a real danger that fire prevention and suppression policies will be implemented that are as ecologically unfortunate as those of the past century' (p. 32); 'We agree ... that the indiscriminate fighting of fires, entrenched as it is in popular culture and in politics, is at best an inefficient use of scarce land management funds and at worst needlessly endangers the lives of firefighters' (p. 9); 'Ecological objectives, if stated in planning documents, are almost always secondary to those for reducing hazardous fuels' (p. 47)).

There is much here that should resonate with Australian readers. Many of the ecological and management issues are similar, and there are many of the same social constraints to the ecological ideal. It is refreshing to see the same issues considered in a different setting, and frustrating to see the same obstacles limiting understanding and implementation. I suspect that our research effort has been a little more systematic and sustained than that chronicled here for North America (e.g. see Woinarski (1999) *Biodiversity Technical Paper* No. 1, Environment Australia, Canberra; Olsen and Weston (2005) Supplement to *Wingspan*, Vol. 15, No. 3), but we too suffer some alarming gaps in knowledge. This volume reminds us that we have a substantial obligation to far more strategic research programs, for these are necessary to inform and improve broad-scale environmental management. The book is available from the Cooper Ornithological Society, c/o Western Foundation of Vertebrate Zoology, 439 Calle San Pablo, Camarillo, CA 93010, USA.

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## RAPTORS OF THE WORLD

By James Ferguson-Lees and David A. Christie.

Illustrated by Kim Franklin, David Mead, Philip Burton and Alan Harris.

2005. *A Field Guide*. Published by Christopher Helm, London. 320 pp., 118 colour plates, map for each species, 14 figures, seven tables. Paperback, \$A55, ISBN 978-0-691-12684-5.

2001. *Helm Identification Guide Series*. Published by Christopher Helm, London. 992 pp., 112 colour plates, 312 maps, 60 black and white text figures. Hardback, \$A180, ISBN 0-7136-8026-1.

While this review is primarily about the second Ferguson-Lees and Christie publication on *Raptors of the World – A Field Guide* (2005), that guide invites a comparison with the first *Raptors of the World* (2001; reviewed in *Emu*, **102**,

211, 2002). These two books represent a Herculean task by the authors. Unfortunately, I give both a mixed review, especially the first – its use usually tests my steel.

The 2005 *Field Guide* is primarily a reprinting of the plates from the 2001 *Identification Guide* with an enlarged discussion of *Migration* (with tables of numbers of migrating raptors from various regions), a 21-page *List of Species and Subspecies* giving broad, generalised geographic distributions, a most useful map covering Southeast Asia eastward to the Marshall Islands and Vanuatu, modified and updated short statements about species consisting mostly of plumage or morphology traits, a 'Quick' guide on the use and meaning of the many abbreviations used in the short species texts, and a shortened three-page *Bibliography* along with a one-page *Further Reading*. In the collapsing of the 2001 book into the *Field Guide* the authors have eliminated the useful 621 pages of species texts (see *Emu* **102**, 211) and the less than useful 54-page *Bibliography*. All the introductory material of the 2005 *Field Guide* takes us to page 77 where the plates start.

The colour plates are generally of high quality. There has been some rearrangement of species on each plate over the 2001 edition, thus adding six plates, and the inclusion of a new species (the Cryptic Forest-falcon (*Micrastur mintoni*), described in 2002).

The illustrations by Franklin, Mean and Harris are well done. However, considering the quality of artwork in books by today's standards, many of Burton's are 'poor'. A few brief clips: some of Burton's postures can only be described as contorted. The three species of Afro-Malagasy gray kestrels could pass for the same species except for their colour patterns – in life their body structures are not the same. Madagascar Barred Kestrels (*Falco zoniventris*), for example, have extremely large beaks and feet for their body size, especially in stark contrast to the Eurasian Red-footed Falcons (*F. vespertinus* and *F. amurensis*) – but this is not evident in the plates. Although the Australian Hobby (*F. longipennis*) and Sooty Falcon (*F. concolor*) are pleasingly accurate, the Black Falcon (*F. subniger*) is not representative. In life only a small amount of the Black Falcon's tarsus is exposed while the plate depicts a tarsus nearly the length of the long-legged Brown Falcon (*F. berigora*), which is shown on the same plate. The illustration of the subspecies of Peregrine Falcon, *F. peregrinus madens*, from the Cape Verde Islands, eastern Atlantic Ocean, is a drastic misrepresentation. That falcon is pale and rusty-coloured and is not a black-headed bird with a full malar as depicted. Australasian taxa other than the falconids are illustrated by Franklin, Mead or Harris.

It does not credit authors, editors or the publisher to have so many mistakes in the literature citations in the 2001 tome. The brief account of their 'Red Hawk' (*Erythrotriorchis radiatus*) of Australia has 28 literature *References* at its end but four of these are not in the *Bibliography*. But that is mild. Of the 167 text *References* for the Peregrine Falcon there are,

for example, at least 47 errors (mostly citations in the *References* not given in the *Bibliography*). However, dates also don't match. Some correct dates in the *References* are wrong in the *Bibliography* and *vice versa*. Ratcliffe has eight *References* citations but only one appears in the *Bibliography*. Such errors continue in a variety of combinations. For the researcher this is frustrating but for the layperson who just needs a book with some information it may not be an issue. So perhaps the 2005 *Field Guide* fills that function.

However, the *Field Guide* suffers problems of a similar genre. The 'Quick' guide to text symbols that are cross-references to similar species uses the Neotropical Hook-billed Kite (*Chondrohierax uncinatus*) from the text as a working model to abbreviation meaning. The authors reference the African Black Eagle (*Aquila verreauxii*) as similar to the gray-backed and gray bar-breasted kite. They are not similar! And if they were, does it matter that there is a medium-sized Neotropical bird similar to a very large African bird? Traditionally three subspecies of the Black Vulture (*Coragyps atratus*) are recognised. Three are illustrated on Plate 4. But the *List of Species and Subspecies* lists that vulture as monotypic.

Species-level allocations can be somewhat arbitrary and much depends on criteria used. The authors have done a forward-looking, competent and responsible job at segregating what they deem species-level taxa in their *Field Guide*. They have increased the number by 24 over their 2001 tome. The break up of the Australasian *Accipiter* group formerly lumped under the Grey Goshawk (*A. novaehollandiae*) is logical as is the break up of a Neotropical *Accipiter* complex. They give a staggering array of 13 species of serpent-eagles (*Spilornis* spp.) of Indonesia and Southeast Asia where traditionally there are about six species. At least two taxa they elevate to species seem not to be so – *Buteo poecilochronus* should be lumped with *B. polyosoma* (Farquhar (1998) *Condor* 100, 27–43) and *Falco altaicus* lumped with *F. cherrug*.

On a positive note, on balance, this book has value in a library because of the encyclopaedic nature of its plates in a single volume. The authors have done a worthy effort on the new material. However, there is the caveat of some important mistakes thus putting a sliver of doubt on the accuracy of the text. Overall, however, I will use it frequently especially as a comprehensive review of the world of raptors and in courses I teach on raptor biology.

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## THE GYRFALCON

By Eugene Potapov and Richard Sale  
2005. Published by T. & A. D. Poyser, London, UK and Yale University Press, New Haven, CT, USA. 288 pp., 42 black and white and 48 colour illustrations. Hardback, \$US45, ISBN 0-300-10778-1.

A monograph of a predominantly Arctic dwelling bird, albeit the most magnificent of falcons, cannot justify a lengthy review in this journal. But this is a most impressive piece of ornithological research, synthesis and writing (albeit poorly edited): as such it provides numerous valuable lessons and fine examples to biologists aspiring to produce work of this kind. Potapov is head of research at The Falcon Research Institute, Carmarthen, UK and Sale is a freelance writer and photographer working primarily in the Arctic and Antarctic.

The 11 constituent chapters are: *Palaeobiogeography and systematics* (31 pp.); *Identification and colours* (24); *Distribution* (15); *Population* (10); *Habitat and landscape preferences* (22); *Food and feeding habits* (27); *Breeding cycle* (30); *Dispersal, seasonal movements and winter distribution* (13); *Competitors, commensals and conspecifics* (14); *Man and falcons* (19); *Threats and conservation* (22). An *Appendix* lists scientific names of mentioned plants and animals, there is a six-page *Glossary*, a 31-page *References* listing almost 540 sources (many in Russian), and a comprehensive eight-page *Index*. Some 1850 Gyr Falcon museum skins were examined for biometrical and plumage (plus 14 birds observed live in the field) analyses. All chapters are impressively detailed and, as quoted from Noble Proctor on the dust cover: 'If this book cannot answer any questions one might have on the Gyr Falcon, then the answer is not out there!'. On the book's spine appears 'Potapov' with 'Sale' directly beneath it – resulting in what appears to be the single person's name 'Potapov Sale' – this should have been avoided by adding initials or inserting 'and' (as on other Poyser books). A trivial blemish is that the caption to *Figure 2.1* states that data appear left to right when they actually appear top to bottom.

This is an important, meticulously comprehensive, work, about a singularly impressive bird, well and truly in the tradition of the greatly admired Poyser ornithological monographs. The Gyr Falcon's northerly range notwithstanding, ornithologists everywhere should gain much knowledge, instruction, insight, and pleasure from this admirable study: Congratulations and appreciation to all concerned.

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