

## BOOK REVIEWS

**Mushroom**, by Nicholas P. Money, Oxford University Press, Oxford and New York, 2011, 201 pp., b/w photos and diagrams, 15 col. pls., page notes, index, Hbk £14.99. ISBN 978-0-19-973256-2.

The author is Professor of Botany at Miami University, who points out that fungi, relative to other natural groups, have been little studied scientifically. Of course, as fungi are not plants, one could ask if a botanist is really qualified to write on the subject! Even so, the author maintains that mushrooms are 'the most wondrous inventions of the last billion years of evolutionary history on earth' so, clearly, he feels that he has a compelling story to put forward. Certainly he champions fungi and marvels at the speed with which mushrooms appear in a meadow; he describes how their growth is 'pneumatic, with the inflation of preformed cells from a button, extending the stem, pushing earth aside.'

The book has eight chapters, which can be read as separate essays; the writing is never dull, such is the enthusiasm given to the subject, while each chapter has a few page notes, relating to research papers or items of historical or literary interest. The index is useful, but it must be remembered that several of the fungi mentioned are American species. But fungi have similar and often surprising properties in whatever continent they may be found; thus, a single mushroom gill can shed 30,000 spores in one second and one spore might even spawn one of the largest organisms on earth, even up to 35,000 tons in weight. I do hope that Professor Money has done his sums correctly! Perhaps as expected, the author is fascinated by a

variety of fungal structures to be found, ranging across resupinates, cages, brackets, puff-balls, agarics, cups or jellies, several with suitable illustrations of historical interest. The illustrations were largely obtained from the Lloyds Library in Cincinnati; the well chosen plates are taken from British, Danish, French, Japanese, and American sources, so confirming the international interest in fungi and their artistic value.

In the first chapter, circumstances necessary for the germination of a fungal spore are discussed, concluding that exact conditions for success are very limited. The spore might pitch where necessary nutrients are lacking, the spore might be eaten by a slug, amoeba or springtail, or it might be poisoned by competing fungal species. In nature, these problems are balanced by the vast number of spores produced by fungal fruiting bodies; indeed, some puff-balls produce trillions of spores yet fields never get covered entirely with puff-balls. Some fungal spores evidently need association with yeasts or other agent, or even passage through a mammal's alimentary tract, before germination is possible; apparently, the spores of many fungal species have never been germinated successfully in the laboratory. In the same chapter, I enjoyed the author's historical survey of discoveries of fungal structure, leading to the modern idea of the nature of fungi as a group. At present, fungi are considered to be a sister group to animals, with both related only distantly to plants. Surprisingly to me, tribute is paid to Beatrice Potter, author of children's books, as an expert mushroom artist, and also as a pioneer mycologist; her research work, involving microscopy, was dismissed at the time by

botanists at Kew and the London Natural History Museum as being of little value. Professor Money, however, feels that Beatrice was badly treated; at that time, few women were thought capable of scientific work!

Importantly, spore development is considered in relation to the latest scientific research, leading to thoughts on the development of a complete agaric. Then regarding the function of hyphae, an expert scanning electron micrograph of hyphal tips illustrates the feeding structures of fungi; without doubt, structure is always related to function in nature. Growth of an agaric is further discussed with the aid of computer simulation; doubtless this line of research will be of increasing importance in the future. The author's treatment of this complex subject is laced with humour; for him, mycology is clearly an obsession.

The diversity of form amongst fungi seems remarkable, when thinking of gills, spines and tubes as spore-producing structures, but spores are also formed by brackets, stinkhorns, earth-stars and bird's nests. The evolutionary details and processes involved are quite 'breathtaking' according to the author. These days, diversity is studied using DNA sequences; the author feels that this work is drudgery, but I think he does concede its value! As expected, the importance of fungal association with certain trees and plants for optimal growth is stressed, but what factors stimulate good fungal growth? This is obviously a very complex subject; however, I was surprised to read that Japanese researchers are using high-voltage bursts of electricity to try to boost growth in certain mushroom crops. What about lightning strikes?

I liked the chapter on mushroom poisons. I had not heard previously that the yellow knight agaric, of Europe and America, can cause destruction of muscle tissue, coma and heart failure. Yet this fungus, common in France, has been listed as a good edible species but, if eaten in quantity and over a few days, symptoms may set in; at Bordeaux in the 1990s several people required hospital admission. Apparently, there were three deaths, all with evidence of muscle breakdown. The toxin was not identified. Poisoning by webcaps, of which there have been several well-documented cases, must be caused by a different toxin which affects kidney tubules and the liver while the deadly toxin of the death-cap, a cyclopeptide chemically, attacks the liver.

The question, is why have some fungi evolved

to produce such specific and powerful toxins? I suggest that you read this entertainingly written book for a useful discussion on the issue. Although the author works in North America, his childhood was spent in England, which may account for his several references to British mycologists and rural fungal lore. It is stated that the number of described mushrooms is now some 16,000, so if anyone has an idea of becoming an expert mycologist, the prospect is rather daunting!

PHILIP RADFORD

**Climate and Weather**, by John Kington, Harper Collins, New Naturalist Series, 2010, 484 pp, numerous maps, charts, b/w and col. pls., £30 Pbk, £50 Hbk. ISBN Hbk 978-0-00-718501-6, Pbk 978-0-00-718502.

The state of the weather determines whether plants are able to grow and thrive, and it influences all animal behaviour, including that of man; Gilbert White obviously understood this, maintaining that the weather of an area was part of its natural history. A previous book on weather in the New Naturalist Series was published in 1952; this was Gordon Manley's *Climate and the British Scene*, which ran into several impressions. However, with increasing knowledge of meteorology and the problems of climate change, it was thought that a new book on the subject would be welcomed. The author, John Kington, has worked as a meteorologist at the Meteorological Office, and latterly has been researching historical climatology at the University of East Anglia.

The book is divided into two parts: the first describes scientific methods in the study of climate and weather, while the second gives a historical account of the climate, sometimes year by year, since the 1<sup>st</sup> century BC up to AD 2000. Anyway, it seems that the British climate shows such variation that it has been said that the British Isles have no climate, but merely weather! Still, people love to talk about the weather and, as Samuel Johnson remarked, when men meet they tell each other what they know already, "that it is hot or cold, bright or cloudy, windy or calm." Johnson did not state what women talked about! As expected, the author defines basic aspects of climatology, including barometric pressure, temperature, humidity, wind and precipitation; also, there are clear accounts of topics such as

frost and frost hollows, the growing season, freezing fog and rime, and heat islands.

I found the chapter on the atmosphere and its circulation helpful, while conditions leading to the onset of hail, snow, fog, rainbows and electrical storms are well described. Then, several impressive weather facts are stated: for example, it appears that a lightning flash may heat the surrounding air to as much as 15,000 degrees C. As I had expected, there are plenty of weather charts and maps to consider but, even for the general reader, they are fairly easy to understand. The significance and importance of westerly winds over the British Isles is stressed, illustrated by histograms linking frequency and year, showing a decline in incidence since 1950; moreover, the effects of volcanic eruptions and dust production on current and subsequent weather are usefully discussed. Of course, Pliny the younger recorded these effects back in AD 79. Further, I was pleased to see a list of notable weather observers from the 14<sup>th</sup> to the 19<sup>th</sup> centuries; these include Samuel Pepys, John Evelyn, James Woodforde and Thomas Pennant.

One chapter is devoted to cloud studies, accompanied by colour photographs which show the ten basic cloud types. Moreover, in the 19<sup>th</sup> century John Constable and J.M.W. Turner, as landscape painters, portrayed clouds as important features of their pictures. Another chapter is concerned with phenology which, in particular, will please botanists; phenology deals with the opening of flowers by date, but is also concerned with the appearance and disappearance of insects and animal and bird migration. Obviously, phenology must depend on climatic conditions, which affect the whole of the natural world.

Over 200 pages are devoted to climatic history, and it is interesting to read of the sources used. Thus, in the 1<sup>st</sup> century BC Julius Caesar had to abandon his first attempt at invading England when an August storm wrecked several of his ships off Dover. In the following summer, Caesar had to wait 25 days because of strong westerly winds before he could make a July landing, but soon he had to retreat once more because of another storm, and the loss of forty vessels. However, in AD 53, the Romans under Plautius successfully invaded Britain, although severe weather conditions were noted on several occasions. In AD 69 there were heavy thunderstorms and London was partly destroyed by lightning strikes and, as recorded in *Carolingian Annals*, year 783 had so hot a summer

that men died of the heat. *The Anglo-Saxon Chronicle* records that 1097 was “over grievous from the tempests” so, clearly, adverse weather conditions are nothing new; indeed, Holinshed reported that in 1202 ale was frozen in houses and sold by weight! Centuries later, Evelyn frequently referred to weather: 1695 was said to have been a year without a summer and the winter was “the very sharpest I have ever passed”. Probably 1695 was unusual because of a volcanic dust-veil effect. A similar effect was seen in 1815, when London saw memorable sunsets, and heavy thundery rain influenced the course of the Battle of Waterloo.

A glossary is included, for which I was grateful: could you define ‘albedo’, ‘orographic’ or ‘radiosonde’? There is also a full bibliography and a serviceable index. The book is well-written and researched; climate is a subject which cannot be ignored. I recommend the work.

PHILIP RADFORD

**The Status of Birds in Britain and Ireland**, by David Parkin and Alan Knox, Christopher Helm, 2009, 440 pp., numerous col. pls., £50. ISBN 978-1-4081-2500-7.

This book was written to bring the last full checklist of the British Ornithologists’ Union, published in 1971, up to date. Clearly this was necessary as there have been many recent changes in the number of certain bird species, while there have been records of pioneer colonisers. Each author has been one time chairman of the British Ornithologists’ Union Records Committee and both have been a long serving member of the BOU’s Taxonomic Subcommittee; it is difficult to think of more fitting credentials with which to carry out the difficult task of writing this book. David Parkin is Emeritus Professor of Genetics at Nottingham University, with an emphasis on avian genetics. Alan Knox is a zoologist and taxonomist and is now head of Historic Collections at Aberdeen University; he is an authority on the taxonomy of redpolls and crossbills, particularly the Scottish Crossbill. It must be realised that bird classification and species recognition is undergoing many changes at present, due to the expanding science of DNA sequencing and also the analysis of bird calls and song. Detailed studies of bird sounds have resulted in several races or subspecies being reclassified as full

species. Still, I was amazed to read that, as one example, more than 35 subspecies of Crested Lark have been described!

Thirty-two pages of the book are given over to colour photographs, which greatly enhance its appeal. The photographs, with good colour reproduction, illustrate several aspects of ornithology today, both academic and amateur. One rarity shown is the Aquatic Warbler, which is declining in Europe generally, but is discovered regularly on migration in southern England; then, I was glad to see a photograph of a Yellow-nosed Albatross from the Southern hemisphere and a first for England. That individual had local interest as, after captured, it was released into the wild at Brean Down. Other photographs show some declining or extinct British birds, including Willow Tit, Red-backed Shrike and Marsh Tit. The habitat photographs are well chosen, especially those which show the industrialisation of Britain's farmland; certain habitats are, of course, unique, with ancient Scots Pine forest and the bogs of the Scottish flow country as examples. Up-to-date equipment in bird identification work, as with transmitting devices and sound-recording and playback apparatus, is also shown. In addition, with regard to bird races and subspecies, there are helpful photographs of both the Shetland Wren and the Fair Isle Wren and, perhaps more commonplace, the British races of Pied Wagtail and Long-tailed Tit.

Clearly, much literature-searching went into the preparation of this work, with well over a thousand references. I found a full and useful index, while other sections include those on Britain's climate, geography and vegetation. Further, bird organisations, societies and publications are reviewed and there are discussions on the topics of bird migration, rarities and vagrants, not forgetting conservation.

The bulk of the book is taken up with accounts of all British bird species, listing taxonomy, distribution and present status. Understandably, considering time factors in preparation, some species accounts are out of date. As an example, for the Eurasian Bittern there is no mention of the successful nesting and spread of the bird on the Somerset Levels in the past few years; however, as the last reference for the species was in 2006, this is not surprising. Because of the time delay, there is obviously no mention of the recent introduction of Common Cranes to Somerset. Some species accounts make gloomy reading, with significant

falls in the breeding populations of migrants such as Spotted Flycatchers, Tree Pipits, Willow Warblers and Turtle Doves. Population changes are certainly not always due to local conditions or to climate change, as faults may be in wintering areas or on migration routes.

An appendix lists all the bird species and subspecies as recorded in Great Britain, the Republic of Ireland and Northern Ireland, and the Isle of Man. Each species is given a category, indicating the bird's status, including introduced species and escapes from captivity. The volume contains a vast amount of information but, necessarily, this cannot always be fully up to date. Birds fly about and species numbers must vary from season to season, while breeding success varies with weather conditions as well as habitat changes: one can never predict the future with accuracy for bird populations. Even so, this is a scholarly and important publication, and deserves a place in all natural history libraries.

PHILIP RADFORD

**A Field Guide to Monitoring Nests**, by James Ferguson-Lees, Richard Castell and Dave Leech, British Trust for Ornithology, 2011, 272 pp, numerous col. photographs, 10 information boxes, Pbk. £24.99. ISBN 978-1-906204-79-2.

The hobby of collecting eggs, traditionally carried out by schoolboys and often over many generations, was banned by the 1954 Protection of Birds Act. With so many birds reduced in numbers, and with increasingly mechanised farming practices, there is no doubt that eggging had to be stopped; nevertheless, in the past, many boys (and a few girls) developed a love of birds, and of watching them, through collecting the eggs of common birds. Without doubt, field skills in finding nests have declined; and the book under review was written to give guidance to those with an interest in the subject, and who wish to monitor nests. I know that there are some who assert that no attempt should be made to find a bird's nest, but that means that no records can be kept. Rightly, it is illegal to damage or destroy the nest of any wild bird while it is in use, or being built, while scarce species are scheduled and receive special protection. The nest of a Schedule 1 species cannot be visited unless a licence has been obtained from the BTO's Licensing Officer. When

visiting a nest, it is basically essential to keep observation time to a minimum and to take every care while searching. No tracks should be left, and cover should be re-positioned. It is important that no sitting bird should ever be startled; the safety of the bird, and of the nest, must be a priority. Originally, this book was written to help those who wish to become involved in the BTO's nest monitoring scheme.

As expected, the three authors are all expert nest-finders. James Ferguson-Lees has written extensively on the subject, especially in collaboration with the late Bruce Campbell. Richard Castell is fortunate in having received nesting and photographic tuition from his expert father, Peter, while Dave Leech knows all about the BTO's nest record scheme and its history; furthermore, Dave is adept in the use of endoscopes for looking at nests in burrows, holes in trees, or in crevices between stones. I found a useful section on search methods, including the importance of watching back; one stratagem mentioned for close-sitting ground-nesting birds, in open areas, is for two people to walk while trailing a rope between them. Close-sitting birds will be flushed, but great vigilance is necessary in marking the exact nest location! At the nest, egg shape and colours should be noted, as well as making nestling descriptions where relevant. There is a useful information box detailing chick gape colours and markings, all of help in identification.

Necessarily, most of the book is concerned with bird species accounts. Detailed information is given for each of the 146 species covered, while there are also short group accounts. Each species is allocated a time-chart, indicating the month when eggs or young are likely to be in the nest. Then, habitat, nest-site, nest structure and egg details are clearly stated, together with the lengths of incubation and nestling development periods.

Each species has a small British distribution map; in addition, there are photographs of the bird, the nest with eggs, nest with young and also a museum photograph of a typical egg. The quality of the colour photographs is excellent but, unfortunately, the dimensions are very small. Most of the illustrations are just 3cm square, so I found it helpful to have a magnifying glass to hand when reading the text. Of course, the book is a field guide, and intended to be carried in the pocket, but it is well worth reading carefully at home; I feel that it is too time-consuming, and

certainly dangerous, to linger and read a book when near a nest. Anyway, the volume is well-bound and will not readily fall apart, but intending users should not forget their reading spectacles. Clearly, the work is fully authoritative and can be recommended for use by any interested person, provided that they are prepared to examine nests in a responsible way. I expect there are some who will maintain that the book should not have been published, on the grounds that it will encourage illegal egg-collecting. However, I think that such individuals will probably want to collect eggs from the hundred or so scarce and scheduled species, and for which monitoring licences are required; reassuringly, no detailed information is given in the book for these birds. The volume itself has a very attractive front cover photograph; this shows four Skylark nestlings in down, with their gapes showing tongue spots, spurs and palate barbs: surely, this is natural design and symmetry at its best, as well as being highly artistic. Yes, I liked the book, although it is not cheap at £24.99. Even so, the text and the colour photographs are first-class, providing that elderly users have access to a good hand-lens.

PHILIP RADFORD

**Bird Sense**, by Tim Birkhead, 2012, Bloomsbury, London, 265 pp, line drawings, Hbk. £16.99. ISBN 978-1-4088-2013-1. Also 2013, Pbk. £8.99, ISBN 978-1-4088-3054-3.

Tim Birkhead is professor of Animal Behaviour at Sheffield University. He has travelled widely and has varied research interests, all linked with bird behaviour and physiology. Clearly he enjoys writing, using a simple and easily understood prose style. I noted that he has dedicated the book to the sylph, meaning a spirit of the air; what could be a better dedication when considering how birds live? The work does not relate to Somerset geographically, but it does relate to the manner in which the lives of birds are regulated. What is it to be like a bird?

The line drawings, all detailed and of a high artistic standard, are by Katrina van Grouw, who was once a bird curator at the London Natural History Museum. The drawings are of some individual birds, but those of essential organs, such as the eye and the bill, are included where relevant. The index appears to have been carefully

prepared; certainly I found it very useful. On scanning the full bibliography, which contains around 250 literature references, I was pleased to find that important historical ornithological writings had not been overlooked.

The author evidently co-operates with many of the world's leading ornithologists working on bird behaviour problems; for example, with kiwis, he has met New Zealand research workers and joined in their nocturnal island investigations. Kiwis have minute eyes while a large part of the brain is devoted to smell; somehow the birds, in almost complete darkness, can locate and seize earthworms deep in the soil. Well, we have no kiwis in Somerset, but we do have dunnocks which, when in the mood, may copulate over a hundred times in one day. What is it like to be a dunnock?

The author's subject is that of sensory biology, linked with that of behavioural ecology. He obtained his PhD by studying the communal life of guillemots on Skomer Island. Remarkably, parent guillemots can recognise the calls of their own chick amidst all the noise of a crowded cliff-edge breeding colony. Hen guillemots only lay a single egg, so the chick gets every attention. All bird behaviour depends on the individual's senses, which are developed so differently according to the species. There is sight, touch, hearing, taste and smell, but appreciation of pain, heat, cold and acceleration must also be considered, as well as the mysterious one of magnetic sense. As birds can see ultraviolet light, surroundings, and certainly other birds must appear very different from images seen by people.

As I expected, I found a long chapter on bird sight, and comparing eye structure in various species, as well as differences in relation to the eyes of mammals. One puzzling bird eye structure is the pecten, which is largest and most complex in birds-of-prey. Apparently the pecten is positioned so that its shadow falls on the optic nerve or blind spot of the retina; it seems that the pecten, which is a mass of blood vessels and unique to birds, acts as an oxygenation device, making up for the lack of blood vessels in the retina. Then, birds have a translucent third eyelid, the nictitating membrane, essential in eye protection, with importance varying according to the way of life of the species. Remarkably, some bird species have two foveas or yellow spots where vision is

sharpest, so fitting in with feeding behaviour in birds-of-prey, kingfishers and swallows. Foveas have high concentrations of light-sensitive cells; where a species has two of them one will be shallow and the other deep, one for close-up vision and the other for distance. We know predatory birds have wonderful visual power, or acuity, in good light while, in contrast, the eyes of owls have remarkable sensitivity, enabling the birds to see in surprisingly dim lighting conditions.

Another good chapter is that on hearing. This begins with a consideration of corncrake vocalisations; the capture of the birds for ringing by netting them is described, as part of an RSPB research project on the Nene Washes. Playback of the song is used to attract the territorial males, although the ethical use of this is still controversial. Anyway, corncrakes call at about 100 decibels, while human speech is around 70 dB, with an ambulance siren at 150 db. The author draws attention to the surprising fact that the male capercaillie becomes temporarily deaf while calling during its springtime courtship display, due to the blocking of the external ear passage by a skin flap. Well, this happening must stop the bird becoming deafened by its own song! Perhaps some pop musicians should copy! Apparently this ear-blocking mechanism was described by German ornithologists back in the 1880s, but was then forgotten. Another German sound investigation, this time a recent one, was on the loudness of the nightingale song. It appears that nightingales in Berlin sing more loudly than those in rural areas; also, they get even louder on weekdays during rush-hour traffic!

The inner ear of birds is well described, including the owl ear with its very long cochlea, relating of course to its night vision. The cochlear hair cells are all-important in hearing and those of birds are replaced regularly. Unfortunately, the hair cells of mammals do not get replaced, so senile nerve deafness is an increasing problem as people live longer. In the wild, most animals die off before deafness affects them. To survive in the natural world all senses are interlinked and in this book the whole bird is considered. To anyone with an interest in how birds live, this up-to-date book is well worth buying. I am pleased to have it in my library.

PHILIP RADFORD

**Mushrooms**, by Peter Marren, British Wildlife Publishing, Gillingham, 2012, 272 pp, numerous colour photographs, Hbk. £24.95. ISBN 978-0-9564902-3-0.

Is there a welcome place for yet another book on mushrooms? Well, this is a very enthusiastic one; the first chapter is a fungal autobiography, where the author describes his interest and association with fungi from childhood to the present time. Peter Marren states that his book is a 'conversational' one, recounting fungal stories which have taken his interest. He is a freelance conservationist and natural history writer, whose approach to fungi is both modest and often amusing. Apparently, one of his credentials is that he regularly leads fungus forays, preferring those where there are plenty of children, who are always better at finding things than adults.

Those mycologists who have influenced the author are mentioned in some detail, as well as his favourite books on the subject. Anyway, he states that he has long 'dabbled' in mycology; yet, even as a dabbler, in 1997 he was commissioned to find out the national status of the Devil's Bolete, a handsome limestone species of bolete which was being considered for special protection. The story is worth reading; the author maintained that he found it 'embarrassing' to be described as a 'mycologist'! Continuing, I liked the section on slime moulds, always a difficult topic; the conclusion was that the moulds are closely related to soil amoebae. I also liked the section on lichens as dual organisms, with explanations of how fungus and alga evolved together, eventually coming to co-exist.

Peter Marren evidently likes to have simple thoughts on his subject, so lichen hunters look up while mushroom seekers look down, as well as foraging in larger groups! Marren does not like the word 'toadstool' as toads do not seem interested in fungi so, with him, all toadstools become mushrooms. Clearly, he finds the common names of fungi fascinating and gives a long list of those which are well-established; favourites appear to be King Alfred's Cakes and Jew's Ear. He is evidently one who welcomed the British Mycological Society's list of new-fangled common names although he says that, on his forays, he uses the new names only when he can remember them! (How else?) One new name which appealed to the author is 'The Flirt', a brittle-cap species which reveals its underclothes!

In fact, I think Marren rather likes formal names; he often refers to 'Latin names', but he admits that many are of Greek origin. Why does he not suggest that the term 'scientific name' is used instead? Still, whatever the nomenclature, there is an excellent summary of the characteristics of the different fungal groups.

Fungal partnerships and beneficial associations with the roots of certain tree species, a subject of increasing importance in forestry, is fully discussed, as well as the significance of parasitic fungi, meat-eaters and recyclers. These subjects are not new, but somehow the author considers them from a fresh angle. Did you realise that the Oyster Mushroom feeds on eelworms in rotting wood, trapping them by sticky knobs on their hyphae? The author asks whether strict vegans know about this; clearly, the information should be available to them.

Garden fungi as well as those found in cemeteries and grave-yards are discussed as well as introduced species, probably imported with bark chips used as mulch. Grassland fungi are considered in depth, together with the sensitivity of waxcaps to chemical fertilisers; interestingly, recent research has suggested that the waxcap group derives carbon from recently fixed carbon dioxide, and not from dead plant material. Apparently, it has been suggested that grassland which is rich in waxcaps is poor for pinkgills, and vice versa. I have not noticed this to be the case on certain unimproved fields on the Quantock Hills.

One chapter is devoted to fungi which are especially common, and contrasting these with those which are particularly rare, with discussions as to the reasons why. I liked the story behind the re-discovery of the Pepperpot Earthstar by a dog walker, perhaps a reason for acquiring a dog! As I expected, the history of the fungus foray is entertainingly written; these days, one should not overlook liability, in case the organisers get taken to court for someone slipping on a damp incline! Necessarily, both edible and poisonous fungi had to be considered, especially as forays are sometimes followed by a mushroom feast. Deathcap poisoning obviously needs mentioning in any mushroom book; however, I was intrigued to read that the Deathcap, apparently, 'tastes quite nice'. No reference is given, which did not surprise me! A long list of poisonous fungi is presented, with warnings; even so, it is pointed out that although there are plenty of poisonous berries, this need not stop you from eating

blackberries! The final chapter in the book is on the important and often controversial subject of fungal conservation. Different aspects of the conservation issue are fully discussed.

Helpfully, there is a good index to the work, as well as a useful reference list. This is not an identification book but one on the place of fungi in the natural world, in the 21<sup>st</sup> century. Research material cited is up to date and carefully selected, including work on fungal DNA analysis which is likely to lead to a lot of re-thinking on mushroom species and future splitting. Moreover, if considering mycological humour and wit, the volume has no equal, while another reason for obtaining this book is the large number of high-quality colour photographs of fungi, landscapes and people. Yes, if you are fascinated by fungi, this is a volume for your book-shelf.

PHILIP RADFORD

**Somerset's Coast: a living landscape**, by Nigel Phillips, Natural Time Out Publications, 2011, 120pp, Pbk £19.50. ISBN 978-0-9557620-2-4.

This is an attractive guide to the geology and wildlife of Somerset's coast and sea, striking just the right balance between a 'coffee table' book full of photographs and an information-packed guide or textbook. The landscape and wildlife photographs by the author are of outstanding quality throughout and are thoughtfully printed close to the text they are intending to illustrate. There is no index, but the detailed appendices include a gazetteer, a map and guide to those sections of the county's coastline having local, national or international conservation designations, and a series of extremely useful species lists.

As the book makes clear, our impact on the other species with which we share this coastline is varied and considerable. Many parts of the coast have been 'developed' in one way or another, whether as golf courses, caravan and chalet parks, harbours, sea-walls and seaside esplanades, not to mention the huge 'footprint' of Butlin's in Minehead. Much of the coastline is also farmed, with arable fields and improved pasture very often descending to within a stone's throw of the shore. Yet, while the coastline has been much changed as a result of all this human activity and ingenuity, it is still a place where we can experience 'wild nature'

at its most intense. Relevant controversies are not ignored, such as the potential ecological impact of a Severn barrage, and the not inconsiderable (but poorly understood) effects on marine life at Hinkley Point nuclear power station, where huge quantities of seawater are pumped on-shore for use in the cooling systems and then returned to the sea about 10°C warmer than at the start of the process.

The author's enthusiasm for his subject is infectious, and clearly one of the book's main aims is to entice the reader out of his armchair and onto the shore. We are encouraged to explore, but safety considerations are highlighted wherever necessary; and we are advised to take special care in areas where there are steep drops, crumbling cliffs and soft mud, and in various places where there is a very real danger of being cut off by a rapidly incoming tide.

The book covers the coastline of 'administrative' Somerset, not the old county of Somerset, although the gazetteer (Appendix 1) does include a few sites in North Somerset (including Steep Holm and Sand Point), as well as Foreland Point and Lynmouth in neighbouring Devon too. In the introduction, there is a map of the coast from the Devon border to Brean Down with a string of landscape photographs. A chapter on the 'Severn Sea' is next, in which the marked variations of salinity and sediment load are highlighted. There then follows a chapter on the rocks, sands and silts – the geology and geomorphology – which provides the context for subsequent chapters on the various coastal 'habitats' or ecosystems. This provides a description of the rocks and sediments, rather than a geological history. There is also a richly illustrated chapter on 'Sea Life', comprising an excellent review of marine plants and animals including those occurring in the littoral zone, ie between high and low tide. The rest of the book is arranged according to habitat and in every chapter the author's enthusiasm for all aspects of natural history shines through, especially his fondness for birds. A chapter on beach life includes shingle and dunes, while salt-marshes deserve, and get, a chapter of their own. The same applies to cliffs and cliff tops.

Sand-dune succession is well covered, as is the distribution of some species along the east-west estuarine-marine salinity gradient; but, surprisingly, there is a lack of detailed consideration given to rocky-shore zonation as a result of variable submersion, especially evident



amongst algae and gastropods. I consider this to be a significant omission.

Throughout the book, species are given both their English and scientific names, while the text is fluent and assumes no previous knowledge. I must repeat here my admiration for the very useful species lists in the appendices. I only found one or two minor errors that got past the proof reader, such as the photograph labelled 'Milk Thistle' on p. 114 which is actually Cotton Thistle. I was uncomfortable with 'an algae' (when the singular 'alga' would have been correct), and I have to say that I do find the 'living landscape' title somewhat over-used.

Overall, this is a high quality and attractively produced volume; certainly, if you want a stimulating and attractive book about our coast and its wildlife, I would have no hesitation in commending it to you. If you plan a seaside walk, don't go without it! It may be a little too large to take into the field, but the cover is strong and flexible and there is no dust jacket to get torn.

GRAHAM RIX

**A gardener's guide to native plants of Britain and Ireland**, by Rosemary FitzGerald, Crowood Press, 2012, 192 pp, Pbk £14.99. ISBN 978-1-84797-309-2.

It is always a pleasure to review a book written by someone living in the county, and none more so than this colourful and informative guide to wild plants suitable for use in the garden. Until fairly recently the author ran a small nursery at her home in Lilstock. She is one of the county's more renowned botanists, a long-standing member of the Somerset Rare Plants Group and regular contributor to various magazines and journals.

Rosemary FitzGerald is well known for her effortless prose that beautifully conveys a deep affection and enthusiasm for all things botanical. In this book she writes about wild plants with a familiarity and lightness of touch that makes them seem like old friends, and the result is a fascinating romp through the British flora – and the seasons – that will suggest all sorts of new possibilities for those who may have started to tire

of garden centres and the 'supermarket' approach to gardening. The book offers a fresh (and timely) approach that will appeal to gardeners wishing to develop their plots as havens for wildlife. At the very least, it should make us more inclined to tolerate, or even welcome, some of the wild plants that find their own way over the garden wall.

The author's choice of species is, of course, a personal one; so, unsurprisingly, a few of my favourites are missing: there is no mention of Early Dog-violet (*Viola reichenbachiana*), for example, which arrived 'unaided' in my own garden and seems to do particularly well in gravel paths and brick paving; and nothing on clovers, despite the fact that several *Trifolium* species will happily grow in lawns, and if allowed to flower are an important food source for bumble-bees. But, as she acknowledges in the introduction: '... undoubtedly readers will find favourites of their own unfairly left out, or 'weeds' that they dread described as delightful, but gardening styles and wishes are intensely personal, and this book has been designed to suggest rather than to lay down any laws. Looking for either native or garden plants that appeal to your individual taste has much in common with a treasure hunt, and the species accounts are intended to be the clues.' As much as anything, then, this book provides pointers rather than answers and encourages readers to work things out for themselves – some plants will appeal, others will not; some will 'work' in particular situations, others patently won't.

The book is illustrated throughout with colour photographs and mostly these are of high quality. Two photographs, on pp 66 and 113, have been printed in a strange muddy purple colour – especially unfortunate given that one of them carries the caption 'The very colours of spring...'. Hopefully these will be corrected when the volume is reprinted or appears as a second edition. The book is competitively priced, especially so considering the fact that almost every page carries one or more colour photographs; I would strongly recommend it to anyone wishing to make more use of wild flowers in their gardens or interested in exploring the links between garden plants and the British and Irish flora.

SIMON J. LEACH

**Macro moth distribution atlas 2011**, by the Somerset Moth Group, with support from the Somerset Environmental Records Centre, 2012, 257 pp, spiral-bound Pbk, £18. No ISBN.

This long-awaited publication is, as the title suggests, an atlas. The editorial team involved in its production was led by our current vice-president John Bebbington, who is the macro moth recorder for vice-counties 5 and 6 (South and North Somerset). It presents distribution maps for no less than 653 macro moth species, with records divided into different date classes and resolutions so one can distinguish between old (4km resolution or worse) and more recent (high resolution, 2km or 1km) records. Old records (pre-2000) are shown by means of green and blue crosses, while those from 2000 onwards are shown as either black diamonds (2000-2009) or red dots (2010 onwards). The maps are very clear, and for each species there is also a graph showing the seasonal pattern of records so that one can see at which times of year it is likely to be encountered on the wing.

There is a brief foreword, but no introduction to the county and its Lepidoptera, nor any account of moth habitats and hotspots. There is no interpretation of the distribution maps, which for many species probably say as much about the distribution of moth recorders as they do about the moths themselves. Some maps do show interesting distributions, however, such as the mainly coastal Archer's Dart (*Agrotis vestigialis*), which frequents sand dunes and open ground near the sea, and the Smoky Wave (*Scopula ternata*), which is chiefly recorded from parts of Exmoor and the Quantocks. Presumably many distributions are linked to the distribution of larval food plants – larvae of the Smoky Wave, for example, feed on Bilberry (*Vaccinium myrtillus*) and Heather (*Calluna vulgaris*). But other distributions seem to

defy explanation: the Maple Prominent (*Ptilodon cuculina*), for example, is widely recorded from the western part of VC5 but is absent from the rest of the county, yet its larval food plants, as its name suggests, are Field Maple (*Acer campestre*) and Sycamore (*Acer pseudoplatanus*), which are both widespread and common throughout the county. A note of the food plants exploited by each species might have been a useful addition to the maps, allowing readers to cross-reference the distribution of the moth with the distribution of its food plants.

Many species may *appear* to be increasing as a result of having been relatively poorly recorded in the past, but the maps nevertheless reveal that some moths have been spreading quite dramatically in the county, such as the Jersey Tiger (*Euplagia quadripunctaria*) and Scarlet Tiger (*Callimorpha dominula*). It is tempting to relate such increases to climate change: the Jersey Tiger used to be restricted to the Channel Islands and coastal areas in south Devon, but in the last twenty years or so has spread northwards and is now often recorded, and is locally abundant, in a number of other southern counties including Somerset, Dorset and the Isle of Wight; it has even recently colonised parts of London. In Taunton this strikingly-marked and brightly-coloured species can be seen in high summer frequenting parks and gardens and allotments, many people assuming it to be a butterfly rather than a day-flying moth.

This atlas provides a valuable record of the present state of knowledge of the distribution of Somerset's macro moths, and stands as a fitting tribute to the Somerset Moth Group and its small army of moth recorders. Anyone running a moth trap should make sure they get hold of a copy, and naturalists unfamiliar with these insects will also find much to interest them here.

SIMON J. LEACH