

in the front on habitat types, distribution, where to go and up to date species lists. It clearly sets a new standard for field guides.

It is always a good idea for the keen birder to have a series of books at one's fingertips. But if space is limiting in your travel bag, I suggest you take along book 3 for general descriptions on the West Indies

birds. Let us hope that in the future, Princeton University Press will continue to come up with books for the major islands which can match the standard of book 4.

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## Identifying and Feeding Birds

By Bill Thompson III. 2010. Houghton Mifflin Harcourt Publishing Company. 222 Berkeley Street, Boston, Massachusetts 02116. 246 pages. 14.95 USD, Paper.

Like many naturalists I have several bird feeders in my yard. These attract, on any given day, half a dozen species [e.g., Northern Cardinal] – typical for good feeders in my area. Over the seasons I get an additional 6 or 7 species regularly [e.g., Common Grackle], as the migration comes and goes. Other birds come but are less consistent [Common Redpoll]. Occasionally I see a special bird [Hoary Redpoll]. It took me many years to have such regularly active feeders.

The first step was getting dense bushes a metre or so from the feeder. When I had an open plain for a yard I paid my children to collect all the discarded Christmas trees, and these I piled around my feeder. The next step up was when a friend advised me to have at least one “squirrel-proof” feeder.

I could have saved myself all this frustration if I had owned a copy of this book. The author lays out clearly the different types of feeder, along with their key characteristics [I have four types] He explains the various varieties of food available, their attributes and which birds they attract. The author also discusses bird-friendly [food and shelter] plants in some detail. Woven into the text is advice on pests, non-feeder attractants, myths and cleanliness. He also includes some non-feeder items like bird houses and water features.

The second part of the book is a field guide of 125 selected backyard birds. It uses photographs to portray each bird in its typical plumages. These images are high quality and chosen to show the appropriate identifying points. The accompanying text covers field marks, sounds, habitat and the birds use of backyards. There is a good quality range map for each species.

Any person who follows the advice given by Bill Thompson should have as active a feeder as can be expected in their neighbourhood. The book is thorough, well organised, pleasant to read and attractively illustrated. Is it perfect? I would question some of his choices of birds in the field guide section. For example he includes Turkey Vulture. I know of only one man who staked out agricultural dead stock in his large rural property. He got lots of Ravens and Crows, plus a few buteos and Bald Eagles, but I never saw a vulture at this site. Current health regulations now prohibit this practice.

Thompson also includes birds that I see in my yard [e.g., Robin, both Waxwings], but never at the feeder. In fact many birds are stated “may” visit a feeder [although I doubt it]. Such birds as Robins come for my pond and waterfall or the berry bushes. Perhaps the book would be more accurately titled “Attracting and Identifying Backyard Birds.”

Thompson says there are no squirrel-proof feeders and I am inclined to agree. I have three “squirrel-proof” feeders: two are two-sided and one is a single. This last one my wife bought very cheaply at a garage sale this summer. I was delighted as it was in very good condition. It was similar to the two doubles I used with great success in previous years. Imagine my consternation when a vibrantly marked Red Squirrel was able to steal sunflower seeds at will. Then followed two months of squirrel war with various adjustments, modifications and branch trimming. I finally thought I had won, until I saw the local crows feeding in the middle of the road. It was a well-marked, squished squirrel. The other, paler squirrels in my yard have not yet shown the persistence of Mr. Flashy.

The author clearly has a Mid-US bias as his milo story illustrates. He said he published that milo [we call it sorghum] is ignored by birds only to get protests from south-western birders who regularly attracted quail and the like with this seed. I was not surprised then, when he missed out birds like Raven and Hoary Redpoll from his feeder selection. I have seen many Hoary Redpoll here in the Great White North and most of them have been at feeders. I had a house where Ravens were daily visitors and a friend reported a couple of weeks ago [October] getting Ravens here [Ottawa] too. I even had a house where I could induce, with fish remains, Iceland Gulls into my yard – but that is extreme. The author's southern bias also comes through when he discusses feeders. I have four hopper feeders and one is a problem in fall. When it rains during the day and freezes at night the hopper tray and the outlets become solid. For most of the year it is a good feeder, but for a month or so it is a pain. Maybe my wife will buy me a new design hopper for Christmas! The other issue is snow. Some years ago, I put a hopper feeder out in the fall on a pole at

head height. By January it was knee height due to the snow bank. I now have it at almost-too-high-to-reach height and hope it gets no lower than my chest level by mid-winter.

I had a little trouble with the index when I looked up sunflower seed as it is listed as striped or black-oil and not under sunflower.

This book is a must for beginners and anyone setting up in a new location. Following Thompson's logic

will allow you to pick a sound plan for your yard. All you will need then is patience and a willingness to adapt to your local situation. It will also be useful to even seasoned feeder watchers and it is a great book to keep by the window. I learned a few new tricks and I have been feeding for 45 years – next spring I will put out crushed eggshells and melon rinds.

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## BOTANY

### Freshwater Algae in China

By Wei Yinxi, Hu Hongjun, Science press, Beijing, 2010, 1023 pages, price: 195.00 Yuan RMB.

Algae, or scientifically known as phytoplankton, are the most important primary producers on Earth. It is estimated that the total amount of organic carbon produced through their photosynthesis is approximately seven times that of higher plants. Freshwater algae vary in shape and color, and survive in a large range of freshwater habitats. In these habitats, they are the essential part of the ecosystem and the base of the aquatic food chain. They are not only an important source of food for herbivores, they are also the most important source of atmospheric oxygen given out from their photosynthesis. They can exert profound influence beneficially or detrimentally on the material cycles of natural ecosystems as well as environmental quality.

Owing to the large territory and the varied natural environment of China, the freshwater algae are both abundant and diverse. Nearly a century of investigation has shown that all the categories of freshwater algae occur in China, their variety demonstrated by the nine thousand species recorded. Though China's freshwater algal resources are numerous, because of change to the natural environment (such as drought and other natural disasters) and human activities (especially the accelerated industrialization and urbanization, as well as environmental pollution and water body eutrophication), some rare species have become extinct, or are at the edge of extinction, and harmful algae blooms extensively and frequently occur in many areas of China. In China, the research work on freshwater algae has not been carried out intensively for a long time, and the monograph on the classification and ecology of freshwater algae has long been lacking. This is obviously unfavorable when problems occur and some efficient countermeasures need to be taken. The newly published book *Freshwater Algae in China* timely meets the current and urgent demands to some extent.

In past decades, as fast development and application of science and technology of electron microscopy and modern molecular biology in research area of algae, a large number of new results have been obtained, and

the systematic evolution theory and classification system of algae have changed greatly. Thus, a timely summary of these results seems to be very necessary. According to the new results of micro structure observation, photo synthetic pigment composition, ultra structural characteristics and molecular systematics of algae, the book systematically discusses the evolution of algae, and according to the classification system of algae presented, a total of 1572 species, varieties and forms of common fresh water algae which have been found and published in China are included. In addition, a handful of groups and species of algae not been reported presently in China, but widely distribute in other countries and may also exist in China. Some foreign algae species being introduced into China as experimental material have also been included. Morphological traits and habitat characteristics of each taxon are described, together with keys, and one to several figures. The book also briefly discusses the ecology of phytoplankton and water quality monitoring. The main contents of the book are: Geological age, origin of life and the evolution of algae; Cyanophyta; Prochlorophyta; Glaucophyta; Rhodophyta; Chryso-phyta; Haptophyta; Xanthophyta; Bacillariophyta; Phaeophyta; Cryptophyta; Dinophyta; Euglenophyta; Chlorophyta; the ecology of phytoplankton and water quality monitoring.

The book is well written with few errors. It can serve as reference for persons who are engaged in botany, phycology, environmental science, algae resources exploitation, environmental protection of surface water and aquaculture.

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