

Bird Color Mysteries Explained

By Geoffrey E. Hill. 2010. National Geographic Society, 1145 17th Street N.W., Washington, D.C. 20036-4688. 255 pages. \$27.50 USD Cloth.

When I have been leading a trip that involved a bus ride I have filled in some of the travel time with an introduction to bird colour. Such an understanding I believe enhances the experience of watching birds. My explanations tend to be basic and in non-scientific terms.

Professor Geoffrey Hill has written an in depth explanation of the colouration of birds. This book is intended for bird watchers and the author uses plain, rather than scientific, language. When a technical term is unavoidable, Professor Hill explains its meaning and use. This makes the text easy to read and understandable for anyone with a fair comprehension of English.

The author explains the way we humans perceive colours and the differences in this perception by birds. He shows how colour is measured scientifically and how we can interpret the resultant graphs for our response against a bird's. He discusses the nature of "colour" as hue, saturation and brightness and how this affects the way we see bird feathers.

Professor Hill goes through the different pigments used by birds. He give details on the origin of the melanins, carotins and more rare pigments. He puts into plain words the methods used by birds to build and combine these pigments to reach the colour they need. In doing so he reveals why some birds can have colour variations in normal populations. For example, the House Finch is typically orange-red, but can have orange or yellow morphs.

He next talks about feather structure and its influence on colour. The blue of Blue Jays and parrots are formed by light reflecting off the microscopic sub-structures of the feather components. The author explains why the hue varies with the angle of the light in some birds and in others remain consistent. By mixing reflected blue light and yellow pigment we see green feathers.

The next chapter is a little more complex because it deals with DNA, genes and inheritance. The author carefully shows how genetic inheritance controls the

colours of birds . If you are not used to the terms you may need to read this more slowly. Our knowledge is far from complete and the influence of environmental factors needs much more research. While food can contribute to bright colour in healthy birds [the pink in flamingos from the carotene in shrimp] it is less clear what happens when birds are stressed by disease etc.

The science behind the mechanics of colour in feathers has been relatively easy to resolve. The reason why birds are coloured and how they use their vibrant [or dowdy] plumage is much more difficult to define. The author sifts through research to answer whether aggression, sex, territory, camouflage or all of the above is the reason for colour use. This gets very confusing because, whereas as a particular combination of colour characteristics work as an attractant in one species it does not seem to apply to a different, but similar, plumaged bird. The results are therefore complicated and this is clearly an avenue for extended research.

Hill uses inserted boxes to amplify special points or key research. These are very helpful, but I always find this technique irritating. I never know whether to read past them and preserve the flow of the text, or to stop and read the box. In this case I used a combination of reading on and then going back to the previous box.

The author uses analogies with common place materials to explain the scientific phenomena evolved. These are so well done that the principles and results became very clear. This is one of the best and most enjoyable books I have read in a long while. Even a person who has never read scientific text before will understand most of this book on first reading. It is a book that needs to be read by every birder and by many who are naturalists. It will help the avid birders make correct identifications and will raise everybody's enjoyment of wildlife.

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The Crossley ID Guide: Eastern Birds

By Richard Crossley. 2011. Princeton University Press, 41 William Street, Princeton, New Jersey 08540 USA. 544 pages. \$35.00 USD Cloth.

In 1934 Roger Tory Peterson [RTP] published his "Guide to the Birds." This was the first bird book where the illustrations were meant as a true field guide, rather than delightful pieces of art. Peterson's paintings, while beautiful, were simplified to make the key characteristics more obvious. He sold out this first printing of 2,000 copies in one week, and became a dynamo who

did more to promote wildlife than any other person.

In the years that followed others produced new guides that contained incremental improvements. RTP's work covered only the east of North America, so whole continent guides appeared. More illustrations of different plumages and then recognizable subspecies were added. An increasing list of rarities were

included, first as appendices then in the body of the text. Better, more accurate illustrations with more and more detail became the standard.

I was never a fan of photos. They show a bird in one pose, one light, one plumage and one state of health. A good artist can smooth out all the individual variations to produce a “typical” looking bird. In the last few years some guides have used computer-manipulated photos that do what the artist does to create a useable illustration.

Crossley’s guide has good range maps and clear text, often with a hint of humour. But do not buy this book for the writing; buy it for the photographs. The author has taken a typical habitat photo as background and super-imposed multiple images of a single species. By careful positioning he has produced a remarkable three dimensional image. It is not totally true to life because I might to see a large flock of Snow Buntings, but I never expect to see a flock of Barn Owls. The result is more like looking at a museum diorama of perfectly mounted specimens.

Each species occupies from a quarter to a full page. The ones on a full page tend to be the more common species, at least in some part of the continent. Some very common birds, however, are relegated to less than a page. The abundant Glaucus-winged Gull gets only one third of a page, whereas the rare Kirtland’s Warbler covers half a page. Each page is normally “pure” – that is only one species is shown. In a few cases some bird [and even the odd human] has sneaked into the background. I rather like the partially-hidden Green Jay behind the Plain Chacalacas. If you look there are adults, juveniles, males and females, winter and summer plumages as appropriate. And you must look carefully. I saw six birds the first time I glimpsed the Willow Flycatcher page, the second time I realized there were eight birds shown and the third time I found nine.

Indeed many species are depicted disappearing into the background, just as they do in real life.

Many times you will hear experienced birders say this looks like a good spot for a particular species. By recognizing key habitat conditions you can calculate what birds might be expected. Knowing what to look for is a huge help in being prepared to identify whatever flits into view. Crossley’s new style photographs give an excellent insight into habitat. Time and again I found myself thinking that I had seen that species in those surroundings.

I normally suggest novice birders stick to RTP’s classic for the first two years. Its simplified illustrations and lack of confusing plumages make it easier for a new birder to get started. After some experience a person can move on to the more detailed and modern of guides. In future I will be recommending birders buy two guides; the 500 gm [1 lb] RTP guide to carry with them in the field and the 1600 gm [3lb 8 oz] Crossley guide to have in the car. If, for no other reason, this is the best book to learn a bird’s habitat requirements – an important part of bird finding and identification. This guide also provides a method of comparing various plumages to birds seen in the field.

Did I find any errors? There were a few things I noted, but they were so insignificant that they are not worth mentioning. Enjoy this book for its positive aspects.

This innovative new guide is a must buy for all birders. The three-dimensional effect alone is worth the price as it really takes you back in to the field. The photo-edited bird illustrations are as good as artists renderings. Do not wait for your birthday, buy it and use it now.

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Handbook of the Birds of the World. Volume 15. Weavers to New World Warblers

By Josep del Hoyo, Andrew Elliott, and David A. Christie (Editors). 2008. Lynx Edicions, Montseny, 8, 08193 Bellaterra, Barcelona, Spain. 879 pages. €215 EUR Cloth.

It is amazing to think what an epic began when I bought Volume 1 Handbook of the Birds of the World [1992]. Now, 19 years later, I have Volume 15 – the penultimate tome. Only one more volume to come in 2012 [covering Tanagers, Cardinals, Buntings and Blackbirds]. This issue, Volume 15, deals with Weavers, Wydahs and Indigobirds, Waxbills, Vireos, Finches, Hawaiian Honeycreepers, Olive Warbler and New World Warblers. As usual the format, the artwork and photographs are excellent.

Weavers are the bright, colourful sparrow-sized birds that build large colonial nests. Some of the species have given me problems in the past as, many are yellow bodied with black faces. While it is easy to see the dif-

ferences between species in illustrations, I have found it much trickier in the field. The other confusion I have had is separating wydahs from widowbirds. Bird lists from trip reports and other sources often use these names interchangeably. Now there is one reference that put these species into a clear perspective. The high quality photographs allow the reader to compare the artwork to a real bird.

Waxbills are familiar birds in the pet trade, providing aviculturist with a large number and variety of colourful animals. They have rounded heads and large dark eyes, which makes them look cute. When I plan a trip to another country I usually visit a couple of pet stores to study their collection of birds. Typically