# Some reflections on the use of skins in bird illustration

*by Martin W. Woodcock*

The last fifty years have seen a huge increase in the use made by bird illustrators of museum skin collections. This has been almost exclusively due to the proliferation of textbooks and field guides to the birds of many parts of the world, using ever more comprehensive illustration coverage. Illustrators are obliged to refer to study skins for species they have never seen in the wild, and for information on intraspecific plumage variation owing to racial differences, gender, age, moult and/or feather-wear factors.

It is important for the artist using museum material to be aware of the information he or she can actually glean from skins, for this avenue of research is by no means the only one available, and indeed has to be amplified by other techniques (although these are outside the scope of this paper).

Many large museum collections have a wide (if mostly not comprehensive) range of species preserved as study skins. In some cases there are numerous examples of each species, from which one may select birds of different ages and sexes, and those collected in different geographical locations, showing subspecific variation. The opportunity to lay out different examples of birds, side by side on the museum bench, is of enormous value. Much present bird illustration would have been virtually impossible in the absence of this ability. However advanced field techniques become—in the way of optical equipment, netting birds, electronic images and other means—and however detailed a study can be made of an individual bird in the field, only the museum collection can provide actual and close comparison between different age groups, subspecies and so on.

Critical examination of skins can be used for information on exact plumage colouration and markings (subject to drawbacks discussed below), on comparative sizes and shapes of bill and feet, precise measurements of some features, and general morphological aspects such as an idea (necessarily approximate owing to differing styles of preservation) of body size, wing and tail shape and length. In a good collection, this can be done to compare a series of skins both for subspecific differences and for changes due to ageing, moult or feather wear. These factors receive an increasing coverage in modern bird books but were, with a few important exceptions, hardly covered at all in books published up to around the middle of the twentieth century. It is worth noting that, with the advent of sophisticated optical equipment and advanced field techniques, data observable on wild birds can be confirmed on museum skins, and *vice versa*.

It will, of course, be clear to anyone contemplating referring to study skins in order to make representations of live birds, that in no way can the skin give a dependable idea of the appearance of a bird in life. This is particularly important to acknowledge in terms of the phenomenon known as 'jizz', that is, such aspects as

stance, usual positions of wings and tail, bulk or slenderness, and so forth. However, there are many other problems which arise from using museum material of which the illustrator has to be aware. Most obviously, a skin cannot be pulled around in order, for instance, to stretch the wings out (in some museums this particular problem has been addressed by preparing a skin with one wing outstretched, but this has serious implications for storage). The ability or opportunity to handle freshly dead birds immediately shows the disadvantage of a cabinet skin in this respect.

To continue with comparisons with a freshly dead bird, the cabinet skin, in the process of being made up, inevitably loses some of the natural lay of the feathers, and this can present quite specific problems in trying to assess how complicated plumage patterns, such as those on nightjars, Caprimulgidae, and gamebirds, Galliformes, appear in life. Also, techniques of preparation vary, and in some cases, in order to achieve a neat skin, some feathering (such as on the sides of the body) can be concealed. Features which may be very apparent in life, especially in small birds, can easily be lost entirely or to an important degree. Furthermore, the dried and shrunken legs and feet on a skin give very little idea of these features in life. Where it occurs, bare skin colour around the eye may be a feature in the field, but mostly fades in the skin, and colours of bill, legs and feet usually undergo major post-mortem change. These colours, together with that of the iris, are sometimes recorded on the collector's label, but older skins usually lack this information, and the terms used to describe colours are evidently subjective, so that one may be left having to interpret such names as 'plum', 'amethyst' and 'lake-red' (see below re colour guides).

A more insidious problem derives from post-mortem changes in plumage colouration, which can result from various causes. Fading occurs over a period of time, and foxing, where green or olive hues tend to go brown or even reddish-brown, may be apparent when a skin is compared with fresh material. This subject was discussed by Wagstaffe & Williamson (1947) when they drew attention to noticeable disparities in colouration in a range of species—including Ringed Plover *Charadrius hiaticula*, Hooded Crow *Corvus* (*corone*) *cornix*, Song Thrush *Turdus philomelos* and Bullfinch *Pyrrhula pyrrhula*—depending on whether they were freshly dead or conserved as skins over long periods. In old skins of the Chough *Pyrrhocorax pyrrhocorax*, for instance, the purple in the body plumage intensifies substantially; illustrations made from such skins may be misleading as a result, and this obviously has a bearing on illustrations purporting to show subtle variation in plumages of similar taxa. Other factors affecting colouration include prolonged exposure of fresh skins to sunlight, and chemicals used in skin preparation. Mercuric chloride, for instance, stains white feathers black, a phenomenon I have noted around the feet of a sandgrouse specimen. The problem is compounded by the fact that even in closely related species fading, for instance of yellow, may occur in one species but not in the other.

This whole problem highlights the lack of a reliable and easy-to-use colour guide, with a consistent nomenclature, which would be immensely useful in making

definitive descriptions of plumage and soft-part colours in trapped or freshly collected birds. Such guides as have been attempted, going back to John Gould in 1839, are unsatisfactory for various reasons. In Ridgway's (1912) *Color standards and color nomenclature*, for instance, over 1,000 colour terms are used, but unfortunately the swatches showing these colours have faded since publication, the degree of change differing even between different copies of the book. The Villalobos *Atlas* (1947) uses over 7,000 colour swatches (far too many for most people to discriminate between) but at the other extreme, the most recent work by Smithe (1975) shows only 86 colours, although the text is informative; Pickford (1970) urged use of the Munsell scheme, developed in 1905, which has as many as 1,450 divisions based on 'hue', 'value' and 'chroma'. It should not, however, be impossible to produce a highly serviceable guide nowadays, with the benefit of modern technology.

An absolutely integral item of information that goes (or should go) with every skin is, of course, the collector's label, identifying the species, sex, locality of collection and so forth. There are, however, various pitfalls in using the information on labels (outlined in Rasmussen & Prŷs-Jones 2003, this issue). Apart from the documentation of colours in life, mentioned above (but often hard to squeeze onto the standard museum label when the data are complex to any degree), the specimen may have been incorrectly sexed or even entirely misattributed to species, and there are many problems in interpreting the actual locality (which commonly bears on the discrimination of subspecific characters). There is also the challenge, particularly to any user unfamiliar with taxonomy, of outmoded nomenclature, which commonly survives on labels.

In ideal situations, authors and artists should work closely together to ensure accurate artwork. In my experience, this happens too infrequently, for various reasons. Some authors are uninterested in artwork, some feel unable criticise it, while others are impossibly critical. Some authors and experts, on the other hand, can come up with very helpful and informed criticism. In most cases, it is just too difficult to get people together at the museum bench to look through all the relevant skins against the illustrations. In comprehensive works, this would be an extremely time-consuming task, on top of the time already spent in preparing the text and plates. However, the high quality nowadays of colour photocopies means that illustrators can at least circulate copies of their work for checking and comments.

Apart from the specific issues of working with skins, there are some points worth noting in the wider context of bird illustrators and museum collections. In these days of extensively illustrated textbooks on birds from all parts of the world, those institutions with the most comprehensive collections are becoming more and more essential for illustrators, and the collections in them subject to ever more handling. There are, in fact, rather a small number of museums with really good worldwide collections, mostly in the eastern United States and north-west Europe, so that illustrators living outside these areas have problems of access; costs must be incurred either by them or by their publishers. Also to be considered is the fairly recent

imposition of charges for artists working in some collections. This may be justifiable in the light of the work being done for commercial reasons rather than scientific research (although it is at least arguable that the creation of accurate images of species, whether commercial or not, is a form of science—after all, some species were described on the basis of their illustration—and is certainly a contribution to the ability of fieldworkers, often conducting scientific surveys, to report with confidence on their observations). However, these costs are passed on by publishers to the consumer in the final price of the book (see Richford 2003, this issue), and it is already evident that prices of some important reference works have drifted well beyond the reach of many would-be purchasers in poorer parts of the world. This circumstance reduces their contribution to the dissemination of ornithological knowledge.

The ever-increasing use of skin collections by researchers from all over the world, and the consequent frequent handling of skins, poses a curatorial conservation problem. Damage to skins includes broken or missing legs, and wings or heads falling off. Labels also become detached when tied loose or to a leg that falls off—and why are not workers handling valuable and indeed irreplaceable skins not required to wear surgical gloves (or at least required to wash their hands thoroughly before each session at a bench)? When illustrators in particular are concerned, it is possible that the imposition of charges and publishers' deadlines may lead to more hurried work, which also is not conducive to maintaining collections in the best condition.

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