

## THE EYE COLOURING OF AUSTRALIAN CORVIDAE

The following correspondence between Sir John Cleland (Beaumont, S.A.) and Derek Goodwin of the British Museum (Natural History), forwarded by Dr. Eric Sims, is included with the permission of both correspondents. Mr. Goodwin in a later letter stressed that he is particularly interested in receiving information on the nictitating membrane of Australian corvids (see last paragraph of his letter).

1. To The Director, Department of Ornithology, British Museum (Natural History), Cromwell Road, London SW7. (dated November 23, 1969).

Dear Sir,

May I appeal to you for help in the following matter? D. L. Serventy and H. M. Whittell (1962) in their book, *Birds of Western Australia* (Paterson Bokensha Pty., Perth, W.A.) state that "all our members of the genus *Corvus* have brown eyes in immaturity and white in adult life." From this I infer that a white iris is a genetic characteristic of *Corvus* in Australia. I understand from H. T. Condon, the ornithologist at our South Australian Museum, that there is no mention (in the sources available to him) of the iris becoming white in your mature English carrion crows and ravens. I would be pleased to know the iris colour of these birds in your country and I would be very grateful for any information that you might also have about the eye colour in *Corvus* elsewhere in the world, especially in Indonesia and New Guinea.

If a white iris is confined to the four species of *Corvus* in Australia, it must surely mean that these four species are descended from a common ancestor who developed a mutation in this direction which also led to descendants with both white and grey bases to the feathers. This possibility intrigues me; can you help me?

. . . . SIR JOHN CLELAND.

2. To Sir John Cleland, (dated December 9, 1969).

Dear Sir,

Dr. Snow has asked me to reply to your query, as I am working on a monograph of the Corvidae.

There are one or two little-known island crows for which iris colour does not appear to have been reported. With these possible (but improbable) exceptions, a white, silver, pale grey or blue iris seems confined to crows

of the Australasian region and the Jackdaw, *Corvus monedula*.

Besides the Australian species, the following have white to blue irides: *Corvus fuscicapillus* (parts of New Guinea, Aru Islands), *C. validus* (Moluccas), *C. woodfordi* (Solomon Islands), and *C. tristis* (New Guinea). All of these have the feather bases either white or very pale whitish grey.

All other *Corvus* species, including our Raven, Carrion Crow and Rook, have dark brown or brownish irides when adult. The British species, and probably most or all others, have the irides bluish or bluish grey as nestlings but they soon darken.

I agree with you in thinking that the Australian crows probably developed from a common ancestor. There may, of course, have been successive invasions from New Guinea, if the white or bluish-eyed progenitor evolved there first. What surprises me is that in the course of speciation within Australia none of your species has redeveloped a dark eye as a species character, especially as all have dark eyes when immature.

I think that white or dark grey feather bases are relatively labile characters in *Corvus* and that some species with white feather bases are most closely allied to others with dark feather bases.

Coming back to the white or whitish iris. Although the Jackdaw has silvery white or silvery grey irides when adult, the very closely-allied Daurian Jackdaw, *C. dauricus*, has dark irides. The jackdaws form a very discreet little group within *Corvus* and certainly have no close affinities with the Australian species. They are sometimes put in a separate genus *Coloeus*.

Some (or all?) of the dark-eyed species of *Corvus* draw the white nictitating membrane over the eye in many agonistic or sexual situations. Indeed when in Australia I at first kept getting the impression of crows flying about with nictitating membranes permanently drawn over the eye! It would be most interesting to learn whether the Australian or other white-eyed species also draw the nictitating membrane over the eye in some displays and what colour it is. Incidentally, in our Magpie, *Pica pica*, the nictitating membrane is still more conspicuous; being bluish white with a brilliant orange spot on it.

DEREK GOODWIN.