

## The Canary Down the Mine

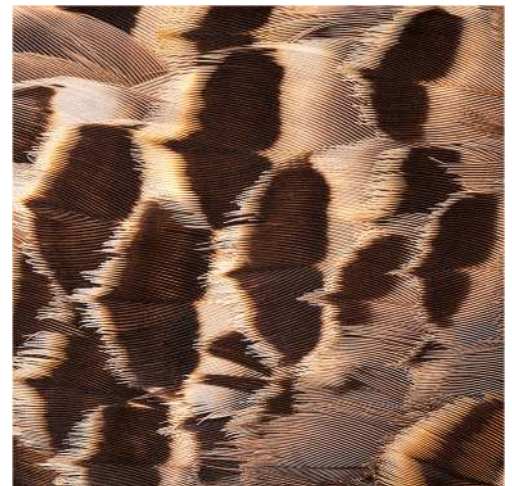
Robin Williams ASIS FRPS

I am currently bringing to conclusion a major project on bird feathers and biodiversity that members may be interested in. Within the scientific community the importance of biodiversity and the contemporary threats to species are well understood, but in the minds of 'ordinary' people – taxpayers and voters, the influencers of politics and change – the story is confusing. We need new and better ways of communicating the message: visual methods are often more powerful than the written word, but how many more times can we see a stranded polar bear adrift on an ice flow as the image of climate change?

Many others are undertaking important work to tell the story, particularly members of the International League of Conservation Photographers. I am attempting to tell the story in a unique and engaging way by using birds – more specifically beautiful photographs of their feathers – to send a message about what's happening in the natural world.

Birds are outstanding indicators of the health of the overall environment – think of the way they used canaries down the mines – the poor little canary was more sensitive to gases than the miners, so when the canary fell off its perch it was time to get out! Birds are readily affected by physical and chemical impacts on their ecosystems, whether these are caused by natural or man-made influences. When communities of birds change this is usually the result of an ecological change. Because many species of birds have become specialised to occupy certain niches, they are responsive to a wide variety of environmental changes and can reflect diversity and trends in other animals and plants with which they coexist.

A shameful total of nine species and fifteen sub-species of Australia's birds are known to have become extinct since European settlement and a host of Australia's birds are currently threatened by a whole variety of different sources. Birdlife Australia



Ground Parrot, Mallee Fowl, Paradise Parrot  
by Robin Williams FRPS

now estimates that there are 216 species of Australian birds now at risk of extinction. Extrapolate that to the general plant and animal population and you can see that we are facing a biodiversity catastrophe.



Photographing *endangered* birds in the wild is extremely difficult, often requiring permits, quite apart from actually finding them! Photographing *extinct* birds in the wild is of course impossible! So I decided to concentrate on the feathers only. Feathers are one of the most distinctive features of a bird's anatomy. Feathers are fundamental to many aspects

of a bird's existence: they provide insulation essential for controlling body temperature, aerodynamic power necessary for flight, colours used for communications, and camouflage. They are also incredibly beautiful. I started the project with feathers from local road-kill or window strikes but very quickly had to make professional connections that gave me access to 'bird skins' of deceased avifauna and I am indebted to Museums Victoria, Parks Victoria and Zoos Victoria for their help in providing authorised access to materials for this project.

Superb Parrot (above) and the scanning macro set-up at the Museum of Victoria, by Robin Williams FRPS

In a technical sense obtaining such detailed and clear macro-photographs of the feathers is very challenging and requires focus-stacking of up to 100 individual photographs in order to achieve the required depth-of-field. Sophisticated lighting arrangements are also required to effectively record the range of colours; the colours we 'see' are created in complex ways – for example some are a result of iridescence.



I had to establish a working macro studio with the camera tethered to the computer so that I could check the focus-stacking, lighting, etc., in situ, before returning the delicate, and enormously valuable specimens to their permanent homes in collections. In order to avoid contamination of the specimens and exposure to the dangerous mercuric

chloride used in the treatment of the specimens I had to work ‘gowned and gloved’ – something that was very familiar to me as a medical photographer.

In a creative sense the project aims to engage the viewer in the beauty of bird plumage and at the same time highlight the disastrous loss of species. The project is in three parts: Flights of Beauty, Flights of Fantasy and Flights of Sorrow. In ‘Flights of Beauty’ images of the feathers of a diverse range of common species are presented in a way that demonstrates their extraordinary beauty.



In ‘Flights of Fantasy’ images of ‘impossible’ feather colours and combinations are presented as an amusing and entertaining set of images; I’ve also had a lot of fun with some ‘fine-art’ versions.

In ‘Flights of Sorrow’ we see the feathers of extinct and endangered species as a telling message about the importance of species loss. The few images

published here are a tiny sample of the images I have now created for the project. For a more extensive look at them check our website:

<https://www.robinwilliamsphotography.com/flights>

I’m planning a possible exhibition next year, but I’d be grateful for any suggestions members may have for getting the message out more broadly. Climate change and habitat loss matter: resuscitating the canary is not enough – we need to close the mine!

(Please note that no living birds were used in this project and that in many nations it is illegal to have in one’s possession feathers, especially those that are from threatened species).

Helmeted Honeyeater, Gouldian Finch and  
(below) Fine Art by Robin Williams FRPS

