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Issue No. 138 / Winter 2020

# THE IRIS

THE **RPS**  
ROYAL  
PHOTOGRAPHIC  
SOCIETY



# Nature Group Committee Elections 2021

## Would YOU like to join the Committee?

The Nature Group Committee is elected to serve for two years. The next election will be at the AGM on the 24th April 2021 for the 2021 – 2023 Committee.

We are keen to hear from Group Members who want to join the Committee and help to run the Group. Perhaps there are things that you would like to see the Group doing, so why not join the Committee and put your ideas forward? The Committee meets on-line about every six to eight weeks so Committee Members from all parts of the UK and beyond can attend meetings without travelling. All Committee Members are expected to make a full contribution to the operation of the Group.

The Committee roles to be elected are:

Vice Chair  
Honorary Secretary  
Honorary Treasurer

Special Interest Group Representative  
Four Committee Members

With changes to the Committee we are particularly keen to find a new Honorary Secretary and a new Honorary Treasurer.

Please feel free to contact any of the present Committee Members listed in The Iris and on the Group section of the RPS website if you want to know more about what is involved.

If you like to get involved in helping to run your Group, or if you wish to nominate another Group Member, then please complete the Nomination Form below and return it to the Honorary Secretary by Thursday 24th December 2020. We would like to hear from you!

## Nomination Form for RPS Nature Group Committee Elections 2021

**Nominees, Proposers and Seconders must all be Current Members of the RPS Nature Group. Closing Date: Thursday 24th December 2020**

I wish to nominate: ..... RPS Membership No. ....

For the Post of: .....

Name of Proposer: .....

RPS Membership No. .... Signature: .....

Name of Seconder: .....

RPS Membership No. .... Signature: .....

If elected I agree to serving on the RPS Nature Group Committee in the above Post:

Signature: ..... Date: .....

After completion by all three persons, the form should be returned to:

Duncan Locke LRPS, RPS Nature Group Honorary Secretary

E-mail: [duncan.locke@btinternet.com](mailto:duncan.locke@btinternet.com) Tel: 07989 494232

Photocopies and scans of this form are acceptable and may be returned by post or e-mail

## Publication information

'The Iris' is published by the RPS Nature Group three times a year. Copy and publication dates are as follows:

Spring	Copy deadline 8th December Published mid March.
Summer	Copy deadline 30th April Published early July.
Winter	Copy deadline 31st August Published early November.

All contributions should be submitted to the Editor. Items covering any aspect of nature photography and/or natural history are welcomed, including reviews on equipment and relevant books. The Editor can be contacted at: iris\_editor@griff45.com

Copy should be sent as .txt or .doc files by email or wetransfer.com. Please do not send hand written copy.

Digitally captured photographic images are preferred but scanned transparencies are also acceptable. Images (whether vertical or horizontal) should be supplied on CD or via WeTransfer.com as flattened 8bit sRGB Tiff files, 6" x 4" at 300 pixels per inch (1800 x 1200 pixels, file size approx 6.17MB). Please do not send larger images. Larger files may be needed for the cover.

No payment will be made for material used and whilst every care will be taken, neither the Editor, the Nature Group or the Printers can accept liability for any damage that may occur to photographic material submitted.

The views expressed within The Iris are solely those of the contributor and do not necessarily reflect the views of the Nature Group Committee or the Editor.

## Distribution:

'The Iris' is forwarded to members using address labels produced by the RPS Membership Dept in Bath. Any member not receiving their copy should contact that department so that their name appears on a label in the future. The Secretary will be pleased to post single copies to members who have failed to receive them.

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# Contents

## 2 Editorial and an update on the 2021 Members Exhibition by Ralph Snook ARPS

## 3 From The Chair: Camera Shooting Mode

## 6 Spring is for Flowers by Richard Revels FRPS

## 10 Nature Group Meetings by Ann Miles FRPS

## 14 Readers' Lockdown Photographs

## 17 Entry Form for the 2021 Members Exhibition of Prints and Digital Images

## 21 Readers' Lockdown Photographs continued

## 24 Photographing Plants in Action by Adrian Davies

## 28 Your Camera Has a Video Button by Mike Lane FRPS

## 32 Lockdown Project: Birds of the River Thames by Paul S. Diette

## 37 Readers' Lockdown Photographs continued



## Cover image

Buzz pollination: Snowdrop (*Galanthus nivalis*)  
by Adrian Davies (see page 24)

# Committee

## Officers

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**Secretary:** Duncan Locke LRPS

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**Julia Wainwright ARPS**

Email: julia@julasimagesuk.com

## Ex officio Committee members

President of the Society;

Vice-President of the Society;

Director General of the Society;

Hon. Treasurer of the Society;

Chairman of the Nature A & F Distinctions Panel

## Nature Group Exhibitions

CDs/DVDs of Nature Group Exhibitions are available for purchase by camera clubs/photographic societies for use in their programme. Please contact the Exhibition Secretary, details above.

# Editorial

Thank you for your lockdown photographs. I hope I have included at least one image from each of the readers who sent in pictures. There is a lockdown article as well for you to enjoy from Paul S. Diette. Thank you as well to all the other contributors for their interesting articles and wonderful images.

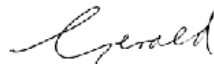
I am hoping to include an article in the next issue of The Iris from a member who has recently gained a Nature distinction, telling us about the road to success. If this applies to you, get in touch please!

I am pleased to get feedback from readers about The Iris. If you have ideas as to how it might be improved, let me know.

The weather has not been too bright here in Staffordshire lately and I have not been out with the camera much. However I have found some galls on a few wild roses in a hedge in our lane and I am off to photograph them when the sun comes out.

Once again my thanks to Dawn Osborn FRPS for her sterling help with editing and proof reading. If any reader also has skills in this department and would like to help with the production of The Iris, please let me know.

Enjoy your Autumn photography.



## Members Exhibition 2021

### Ralph Snook ARPS

It is with great regret that it has been decided that the 2021 Members Exhibition will be Digital entries only. The committee have come to this conclusion after consideration of the Covid-19 restrictions that are currently in place, and the likelihood of similar or tighter restrictions continuing through the first quarter of next year. If such restrictions applied during entry and selection we do not think it would be advisable, or potentially even possible to manage prints. As a result of the Covid-19 restrictions we are making some changes to the entry and awards of this year's exhibition, which are explained on pages 17-20.

# From the Chair- Thomas Hanahoe FRPS

## CAMERA SHOOTING MODE

---

Like many of us, I have spent a significant part of the Covid-19 lockdown period at my computer working with image files. The images were first captured in raw format and subsequently developed into JPGs for upload to a website. I could have chosen initially to shoot in JPG format rather than raw so that the images would have then been ready for the internet: so why choose raw rather than JPG format?

### JPG or Raw Images?

As well as the camera shutter speed, lens aperture and ISO, which together determine the exposure, factors which affect the resulting photograph include the white balance, contrast, colour saturation and hue as well as the degree of sharpening. Your choice, JPG or raw, will determine how these variables are managed.

Digital cameras record the image on the camera sensor. The resulting digital file contains all of the data captured by the camera during the exposure to produce a raw file. It is a greyscale image file which has embedded colour information resulting from a mosaic of individual Red, Green and Blue sensitive pixels. A colour image is produced from the raw file using raw converter software. This software interprets the RGB pixels in the greyscale image file (de-mosaicing) to develop a colour image. The initial raw image is dark, lacks contrast and, because of the pixel nature of the image, edges are not truly sharp when compared to film. It is a digital negative which needs to be developed. If you choose JPG in the camera settings then the initial raw file is developed internally by the camera's own raw converter software according to the settings you have chosen with respect to colour saturation, white balance, sharpness etc. The resulting JPG file is then copied to your camera's image card. Alternatively, if you choose raw in the camera settings, the file is copied to the card as the basic unconverted raw file to be developed subsequently in a computer.

### Choosing JPG

JPG is a good choice if you require your images to have small file sizes. JPG images are automatically compressed by the camera's computer to reduce the overall file size. With JPG images all of the choices

outlined above (contrast, colour etc) are locked into the image when the shutter is pressed and it is difficult subsequently to change them. You choose the degree of compression (JPG quality) and it is not uncommon for the majority of the raw image data to be lost through this process. As the degree of compression is increased the quality of the image decreases but even at five per cent of its original size a JPG file may still be of sufficient quality for its required purpose. What is JPG compression? It is the removal of data deemed surplus to requirements. For example, if a significant area of the image has a similar colour, such as in a blue sky, then instead of recording the full range of RGB colour data for each of the relevant pixels, that data will be reduced to a single set of values. It is this compressed information that is then transferred from the sensor to the camera card and the rest of the data is discarded. This compression is "lossy" and the data in question cannot subsequently be recovered.

The image in Fig 1 above was captured as a JPG file. It is worth noting that with some file formats, for example with TIFF images, file compression is "lossless" in that the whole file is shrunk but no data are discarded and the compressed data can subsequently be recovered by restoring the file to its original size.

### Advantages of JPG files:

- a limiting factor when using high speed shooting, with many frames per second, is that the camera's buffer is rapidly filled and the sensor then stops recording images while the buffer offloads its data to the camera card. However, with small JPG files the camera is able to accommodate a very large number of images before the buffer is filled;
- compared to raw images, an increased number of JPG images can be recorded on to the camera's image card;
- the small size of a compressed JPG file enables the image to be transmitted rapidly and easily over the internet. This is often important, for example in sending sports pictures to editors for publication in daily newspapers. Decisions have already been made in camera about colour, sharpness etc so the images are immediately

available for editorial use without the need for any further development;

- JPG images are readable by a wide range of hardware devices such as printers and scanners.

#### **Disadvantages of JPG:**

- permanent loss of data;
- JPG is restricted to files with 8-bit data (2 to the power of 8 which gives 256 levels of variation) but modern cameras record data at 14-bit (2 to the power of 14 which gives 16,384 levels of variation). This extra information is lost, significantly reducing quality;
- JPG format is not compatible with layered images and, in the computer, layers must be compressed before saving an image as a JPG.

#### **Choosing raw:**

Shooting in Raw has several advantages and is a good choice if you want the highest possible quality from the data captured by your camera. All of the data recorded on the camera's sensor is copied to the camera's card. None of the information is discarded. However, high quality data files result in large file causing hard drives are fill up rapidly. Once the raw file has been downloaded from the camera card to the hard drive, apart from shutter speed, aperture and ISO, all of the parameters associated with the image, such as contrast, colour saturation and hue, sharpening and noise, picture style and white balance, as well as the overall image exposure, can be adjusted on the computer. This is highly significant when quality is paramount.

#### **Advantages of Raw files:**

- the photographer has extensive creative control over how the image develops rather than the image being developed by the camera's in-built computer algorithms;
- 14-bit data can be used to determine parameters such as the image illumination levels and colour spectrum;
- white balance, which makes a substantial difference to the colours in the image, may be altered in the computer;
- changes made to the raw file during development are saved as additional information to the initial raw data so that development of the image does not include any data loss from the raw file;
- the raw file remains intact and is available for later re-development.

#### **Disadvantages of raw:**

- file sizes are substantially larger than the size of compressed JPG files;
- large files quickly fill the camera buffer and card as well as computer hard drives;
- the images are not immediately ready and need to be developed via a computer using a software programme such as Adobe Lightroom or Photoshop (both use Adobe Camera Raw), Capture One etc;
- skills to use raw converter software need to be acquired;
- whereas JPG files are generic, raw files are proprietary with respect to the camera manufacturer. To make raw files generic they first need to be converted to DNG format.

The two images in Figures 1 and 2 were taken at the at the same time by a single press of the shutter with the camera set up to record both small JPG and raw files. The small JPG image is printed as exported from the camera without further development. The raw file was developed as a Smart Object TIFF file using Adobe Photoshop (Smart Object TIFF files can be re-opened in Photoshop as the raw file and the raw conversion parameters can then be re-adjusted as required, again with no data loss). The TIFF file was then converted to a JPG. Both files were then resized for email to The Iris Editor. Note that the original raw file was approximately 23 times the size of the original small JPG: That's a lot of data to throw away!

It is apparent from these two images that with files developed as small prints, there are few notable differences with respect to choosing JPG or raw format. In most instances, the choice between JPG and raw is determined by final image output. If the images are needed rapidly, for example in sports and news, JPG is usually the format of choice. However, if image quality is the overriding factor (fashion, portrait, landscape, wildlife etc) raw format is more often the order of the day.

It is worth emphasising that there are additional implications in setting the camera to record raw files: their development is time consuming and requires a significant personal investment in the acquisition of appropriate computer skills. Unless your raw conversions are saved as TIFFs which show better image quality than the camera's JPGs, these implications may be too high. If the camera is set to large JPG at the highest quality and care is taken in setting variables such as contrast, colour, white balance etc, both the JPG image and TIFF image developed from a raw file will look similar:



**Fig 1: JPG Image file.** The image was captured as a small JPG file (Canon 1DX MkII, sJPG Level 3, F5.6, 1/50sec, ISO 1600, EF16-35mm @25mm, Flash -1.3 stops, File size 924KB).



**Fig 2: Raw Image file.** This image was captured as a raw file (Canon 1DX MkII, F5.6, 1/50sec, ISO 1600, EF16-35mm @25mm, Flash -1.3 stops, File size 23.29MB).

nonetheless, the raw file will provide you with the opportunity to interpret the image in your personal style rather than that of the camera's computer algorithm.

With Covid-19 in the air and many of us locked down for significant periods, now may be a good time

to consider whether it should be JPG or raw development for your images.

Keep safe.

*Thom*



# SPRING IS FOR FLOWERS

## RICHARD REVELS FRPS

As I write these notes in the first few days of February a few early spring wild flowers are starting to bloom in the countryside. Spring is a particularly good time to photograph many woodland wild flowers as, until the trees produce their leaves in May, the woodland floor receives plenty of light allowing plants like Primrose, Oxlip, Wood Anemone, Lesser Celandine, Early Purple Orchid and Bluebell that take advantage of the good lighting and come into bloom. In more open countryside the plants flower throughout the spring, summer and autumn, and you will find a different range of species. Some of the early flowering species includes Cowslip, Pasque flower and the Snake's-head Fritillary.

For Nature Group members who have not yet ventured into wild flower photography; why not give it a try! There is no real need to spend money on new expensive equipment, as you can get good flower pictures using any decent lens. A wide angle lens of

around 20 mm to 24 mm will allow you to get in close and show the habitat where it is growing in the background. A medium telephoto lens of around 200 to 300 mm will allow you to produce excellent pictures of the larger flower spikes and clumps of flowers, and will give a nice smooth looking background of out of focus vegetation.

If you need to focus closer than your lens normally allows, there are inexpensive screw-on close up lenses that enable much closer focusing and produce surprisingly good results. Another alternative is to buy an extension tube that fits between the DSLR camera body and lens. If you want to get in really close a true macro lens does have its advantages.

There is no ideal focal length for flower photography, as good flower pictures can be produced by all focal length lenses from extreme wide angle to telephoto. Taking a picture of flowers using





say a 16 mm lens and then a 400 mm lens, will produce vastly different looking results. I often use a focal length of around 24 mm for my 'in habitat' shots, but it varies, and for the Wild Daffodils picture taken in a local wood I used a zoom at 40 mm. This will probably be the cover picture of a book I am working on, 'Wild Bedfordshire 2020'.

The difference between a picture taken with a semi-wide angle and a telephoto is illustrated with my pictures of a clump of Green-winged Orchids, right. As with any kind of photography you will need to develop your own style if you are going to progress, and the results of trial and error can be easily seen on the screen of your digital camera.

Good lighting can lift a picture from just a record shot to a potential competition winner. Side or back lighting handled well, a reflector or weak flash will increase detail into shaded areas, and such techniques will make pictures stand out from the standard record shots.

For most of my plant pictures I still use a tripod, as not only does it keep the camera steady and in focus, it also slows down the process of taking pictures so that more consideration can be given to composition and lighting. For my flower pictures I use a full frame Canon DSLR with a range of lenses from 16 mm to 400 mm. Details of exposure and focal length are on each of the accompanying pictures.

In March many deciduous woods will have some showy wild flowers coming into bloom, with Lesser Celandine, Wood Anemone and Wild Daffodil the most likely to be found. Come April they will be joined by many more including Blue Bells, Bugle, Early Purple Orchid, Dog Violet, Primrose and Yellow Arch-angels, all of which are photogenic subjects.

In April suitable open countryside habitats can have good displays of Cowslip, Pasque flowers, and in damper areas Ladies Smock, Marsh Marigold and the Snake's-head Fritillary.

Section B of our Annual Exhibition includes wild flowers and always has a lower entry than Section A. You have a higher chance of acceptances with good flower pictures than you have with entries in Section A, so why not give it a go.

Finding good locations for wild flowers in your area should not be too difficult. There are many famous Bluebell woods spread across the country and they will also hold a range of other flowers as well. Your local Wildlife Trust will be able to advise on the best reserves in your area for flowers, and they may have a book available reserves stating what can be found in each of their nature reserves.





## Photographs

Previous pages:

Pasque Flowers and Green-winged Orchids.

This page, clockwise:

Cowslips, *Primula veris*; Blue Bells, *Endymion non-scriptus*; Wild Daffodils; Birdsfoot Trefoil, *Lotus corniculatus* and Bugle Flowers, *Ajuga reptans*.

Opposite page, clockwise:

Wild Daffodils, *Narcissus pseudonarcissus* and Golden Shagpate, *Inula crithmoides*.







# NATURE GROUP MEETINGS

## Ann Miles FRPS, Programme Coordinator

With lockdown starting on March 23rd, all events for the next months had to be cancelled. By June it was obvious that we needed to organise some events for the group so we could at least bond over a Zoom screen. We have run four events so far, each with increased audiences and a lot of satisfied participants from feedback received. A big thank you to Ian Wilson who has given his time and expertise freely to help us improve our understand of Raw Conversion and Layers & Masks. Mick Durham, the current Chair of the Natural History Distinctions Panel, gave us an excellent presentation on Gaining a Distinction in Natural History. The links to these presentations are on the website.

With Lockdown being lifted, field meetings resumed on Friday 31st July with a trip to the wonderful National Trust Reserve at Sharpenhoe, Bedfordshire, in the Chiltern Hills. A group of nine Members with two leaders spent several hours on a chalk hillside photographing butterflies and other wildlife on what proved to be the third hottest day ever. There were hundreds of Chalkhill blues, many of

them mating. Burnet moths were also abundant and, again, there were many paired up.

We found a shady spot in which to eat our lunch, suitably spaced of course! Afterwards it seemed that most of the insects had also retreated to shadier nooks so we left Sharpenhoe in search of long cold drinks! It was agreed that it was just wonderful to be out with other members sharing our passion for photography.

As always, it would be great to have meetings in all parts of the UK. Many people on the Zoom sessions believed they were the only one from their locality but found that others, in fact, live in the same county. The meetings can be for four or five people to an area you know or to more formal reserves. They can be whole day or half day visits. You do not need to be an expert: just to have an interest in sharing photography with like-minded people. We do all the advertising and booking, so it really is not very time-consuming. Please let me know if you are interested in showing Members around your favourite spots. Obviously, while any restrictions remain, groups will be limited in number and people will be reminded about observing social distancing.



Socially distancing participants at Sharpenhoe by Anne Miles FRPS







### Photographs taken by group participants

*Previous page*

Beetles on Grass by Duncan Locke LRPS

Chalk-hill Blue by Peter Ward

*This page, clockwise from top left*

Mating Chalk-hill Blues by Christine Holt

Spider with prey by Duncan Locke LRPS

Chalk-hill Blue pair mating by Andre Neves LRPS

Six-Spot Burnet on Scabious by John Shepherd FRPS

*Opposite, clockwise*

Chalk-hill Blue butterflies mating by Derek Chatburn

Spider with prey by Jane Moore LRPS

Burnett Moth by Jane Moore LRPS

Burnet Moths with cocoon by Ann Miles FRPS

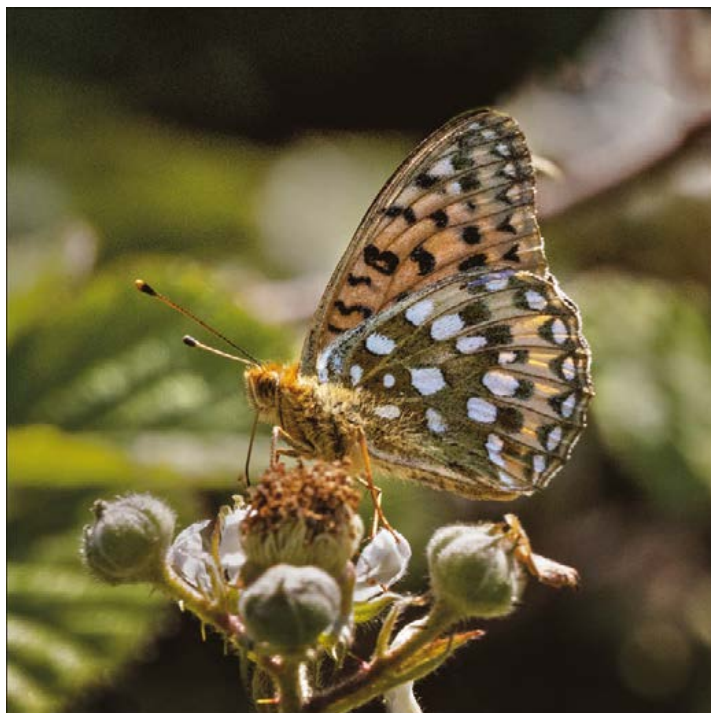






# READERS' LOCKDOWN PHOTOGRAPHS





## Photographs

*Opposite Clockwise:*  
Banded demoiselle by  
Dawn Osborn FRPS,  
Common darter and  
exuvia by Jon Ashton,  
Forget-me-not by Gerald  
Griffin.

*Here:*  
Male Dark Green Fritillary  
and Large Blue butterfly  
by Duncan Locke LRPS

*Next Page:*  
Great Crested Grebe  
weed dance by Maggie  
Bullock, Moorhen with  
chicks by Julia Andrews



Maggie Bullock writes  
"During lockdown I was  
able to walk to some local  
meres where I could watch  
various birds. Whilst  
walking along the side of a  
creek I noticed a pair of  
Great Crested Grebes who  
launched into their  
courtship display."





## 2021 Nature Group Members Exhibition

As a result of the Covid-19 restrictions we are making some changes to the to the entry and awards of this year's exhibition.

- Each entrant will be allowed up to 6 images in each of the 2 categories instead of the previous limit of 4.
- In Each Category a Gold Medal will be awarded for the 'best' image, and a Bronze Medal to the runner up. Certificates for the Selectors Choices and Highly Commended images will remain as in previous years.
- The acceptance numbers are likely to increase as the level will be maintained as a percentage of the total entry.

We can be confident that we will be able to run a digital only exhibition despite any restrictions that are in place. This can be achieved by remote judging using a combination of a web based version of the selection software and Zoom. This has already been used successfully in the Midland and Welsh Salons.

Beyond 2021 of course, we intend to return to a print and digital exhibition along the same lines as in previous years. Please continue to support the exhibition by entering your digital images and helping to ensure we have another high quality Nature Group Exhibition.



Two winning PDI images from last year. *Left*, Dewy Chalkhill Blue Butterfly by Keith Polwin ARPS (Gold Medal) *right*, Sandstone Rock Detail No. 4 by John Bulpitt FRPS (Bronze Medal).

# 2021 Nature Group Members Exhibition

## Exhibition Selectors: To Be Confirmed

### Exhibition Calendar:

Entry system will open	25 <sup>th</sup> November 2020
Closing date for entries	7th February 2020
Selection Day	16th February 2021
Report cards	by mid-March 2021
Exhibition Opening	24th April 2021

The preferred method of entry is via the online entry system. Nature Group members will be sent an invitation email that will contain a link to the entry system. Any members that cannot use the online entry system can post a completed entry form along with a CD/DVD containing their images to the following address.

RPS Nature Group Exhibition  
c/o Ralph Snook ARPS  
8 Knole Close  
Almondsbury  
Bristol  
BS32 4EJ

Email: [rpsngexsec@btinternet.com](mailto:rpsngexsec@btinternet.com)

The Members Exhibition page of the Nature Group section of the RPS Website will contain a link to the entry system, and a copy of the entry form can also be downloaded from there.

Gold and Bronze Medals will be awarded to the best and runner up images in each category. Selector, and Highly Commended certificates will also be awarded in each. The **'Tony Wharton'** award will be presented to the most successful entrant in the exhibition.

The acceptance list, plus a selection of award-winning images, will be published in the Summer issue of 'The Iris'. The awarded images will also appear on the Nature Group Galleries website.

'slide shows' of all accepted images will be available to download from the Nature Group Dropbox Account, there will be no DVD automatically issued to each entrant.

Further details of the entry conditions can be viewed in the online entry system, the Nature Group area of the RPS website, and on the manual entry form shown below. **Please note the conditions shown in red indicate a change to conditions previously in place.**



# 2021 Nature Group Members Exhibition

## ENTRY FORM (Manual Entry Only)

ENTRANT DETAILS (Please complete legibly in BLOCK CAPITALS)

Name: ..... Honours: .....

Address: .....  
.....  
.....

Post Code: ..... Tel No: .....

Email: .....

I accept the Conditions of Entry and confirm I am a member of the RPS Nature Group

Signed: .....

**There is no fee required to enter the exhibition.**

**IMAGE ENTRY DETAILS (Please complete legibly in Block Capitals)**

**Digital Images – Category A - All creatures – birds, mammals, reptiles, marine life, insects, etc.**

Cat Id	Image Title
DA1	
DA2	
DA3	
DA4	
DA5	
DA6	

**Digital Images – Category B - All plant life (including flora, fungi, lichens) and all other subjects including geological and microscopy, plus patterns, (design and form found in nature).**

Cat Id	Image Title
DB1	
DB2	
DB3	
DB4	
DB5	
DB6	

# 2021 Nature Group Members Exhibition

## CONDITIONS OF ENTRY

Entry is restricted to members of the Nature Group of the Royal Photographic Society.

### General Conditions

- All entries must be titled with the correct English name. Only use the scientific name where there is no English name. **Trivial and/or cute titles are not acceptable and will result in disqualification.**
- All images must convey the truth of what the author saw at the time of taking. **Any manipulation must be confined to exposure adjustments and the removal of minor blemishes or distractions.** The final image must have been produced from a single negative, transparency or digital recording and must not be a combination of images. The only exception is focus stacking.
- **Images of captive subjects or those captured using live bait are not permitted.**
- Work accepted in previous Nature Group Exhibitions is not eligible regardless of which section it was accepted in, ie digital images should not have been previously accepted as slides, digital images or prints. **This also applies to near duplicates of previous acceptances.**
- Entering this Exhibition assumes that entrants agree to their entries being used to promote the Nature Group by inclusion in for example, the Exhibition 'slide shows', the 'Iris', the RPS Journal, the Nature Group's section of the RPS website, and the Nature Group Gallery Website. Copyright of all images remains with the author.
- Acceptance of entries will be notified by a report card which will be emailed or posted to all entrants.
- Whilst every care will be taken of all entries submitted, the Nature Group cannot accept any responsibility for loss or damage, however caused.
- Submission of work implies acceptance of the above conditions.
- **Failure to comply with the Conditions of Entry will result in your entry being rejected.**

### Production of DIGITAL files.

- **Maximum size is 1600 pixels horizontally x 1200 pixels vertically.** Files to be in **jpg** format, in the **sRGB** colour space, and **300dpi**. **Please do not add a background fill as the projection software will do this automatically.**
- For manual entries the CD/DVD, with your name/s and distinctions written clearly on it, should contain a folder for each entrant with up to 12 image files in each folder.  
Folder naming protocol: - Name and RPS Distinction. (e.g. **Joe Blogs ARPS**)  
File naming protocol: - Category and number corresponding to the details on the entry form, space, and Title. (e.g. **PA1 Common Seal DB1 Oxeye Daisies**). Please use both upper and lower case, as in these examples. Burn as a Data CD/DVD and close it. **Do not use options to write 'Session' or 'Multi Session'.**
- After selection CDs/DVDs will be destroyed and unaccepted images deleted from Nature Group Computers.



## LOOKDOWN CONTINUED

### Photographs

Badger looking out from bushes by  
Robert Galloway

Robert writes, "My favourite image  
taken during lockdown in Glen Feshie  
within the Cairngorm National Park."

Tiny Spider by Mike Rowe FRPS

Mike writes "Whilst keeping the brain  
active by trying to do the crossword, I  
noticed a tiny spider on the cover of my  
tatty old school dictionary. To give a  
sense of scale, the blue dictionary cover  
is just 2.2mm thick.

Fortunately the spider gave me time to  
set-up for a photo-stacked image,  
comprising 36 frames, processed in  
Zerene Stacker. Taken in my  
conservatory at the end of March."





### Photographs

*Clockwise: Rose-ring Parakeet and Cherry blossom and Grey heron portrait by Julia Andrews, Snakeshead Fritillary by Dawn OsbornFRPS, Emerald damselflies mating by Jean Robson and Female Silver Washed Fritillary by Duncan Locke LRPS.*







# PHOTOGRAPHING PLANTS IN ACTION

## ADRIAN DAVIES

The vast majority of images of plants and fungi (which, for the purposes of photography and this article, will be considered together) are of static subjects, shot either in the field or sometimes in a studio environment. But many plants either move, or disperse themselves through movement, perhaps wind, temperature or touch. Indeed, the fungus species *Pilobolus*, which grows on rabbit droppings, exhibits one of the fastest movements of anything in the natural world, propelling its spores a metre or more away, at a speed up to 32 metres per second, an action faster than the speed of sound!

It is possible to photograph many of these plant actions and the resulting images can be both fascinating and beautiful as well as informative. For practical reasons, most photography of this type is done indoors, using flash. Whilst it would be possible to do some of this in the field, problems with wind and background would make it very difficult.

When collecting material for photography it is

obviously essential to take heed of the 'Nature Photographers' Code of Practice'. All of the images in this article were shot using material from in or around my garden. I often grow specimens specifically for photography.

Even photographing in controlled conditions indoors, there are still logistical difficulties in getting the subject in front of your camera. Delicate Oak or Hazel catkins for example may discharge their pollen when cut from the branch, so a very sharp pair of secateurs will be required. With Puffballs and Earthstar fungi I always tap them in the field so that they release some of their spores before I bring them indoors.

Some subjects such as Puffballs may puff 10 or more times before their spores have all been released. In the case of catkins, if you keep them in water overnight, you may find a fresh batch of pollen has developed, and more photography is possible.

It is vital to do lighting and exposure tests before





trying to photograph the 'event'. You may only get one chance – the Borage flower shown here seemed to only release pollen once.

Several plant action images are possible. Firstly, those illustrating wind dispersal of spores or pollen. To show up the spores or pollen a dark background is preferred. I either use black velvet or an A3 ink jet print of out of focus vegetation. If you keep this underlit you will get a dark mottled background. For the lighting I tend to use three small flash guns, two from behind to backlight the spore or pollen cloud, and a third, to provide some frontal lighting, perhaps with a reflector or diffuser. Most subjects of this type do not need ultra short duration flash. I often use either the Nikon SB-R200 macro flash system, or Nikon Speedlights, such as the SB-5000. The R200 has a fixed duration of around 1/1600<sup>th</sup> second, whilst the SB 5000 has a variable duration according to output. At 1/16<sup>th</sup> power, the duration is around 1/9,000<sup>th</sup> second. I often do not use the shortest duration as

some movement in the spore/pollen cloud can add to the dynamism of the image.

Whilst catkins use the wind to spread their pollen, Puffball fungi need impact, for example from a raindrop. I usually arrange a water filled pipette directly overhead and to one side of the aperture from where the spores will emerge. With a friend dropping the water, some practice was required to release the shutter at the right time!

Another form of pollen discharge is due to sonication ('buzz pollination'), where the vibration from an insect wing causes the pollen to be discharged. Several examples are known, including Snowdrops, Cyclamen, Tomatoes and Borage (some tomato growers use electric toothbrushes as pollination devices). In the example shown here, a vibrating tuning fork was used to simulate the insect wing beat.

The flight of seeds as they fall from trees is worth investigating. Sycamore and Maple seeds are winged



### Photographs

Left: Alsomitra seed

Above left: Cultivated Borage (*Borago officinalis*). Pollen being released from the flower by sonication, which mimics "buzz pollination". In this case the stem was touched with a vibrating tuning fork.

Above right: Puffball.

and spiral down from trees to ensure that they land some distance away from the tree. In the example shown here, of a Sycamore seed, the spiral image took some considerable time to achieve, requiring a friend to stand on top of a step ladder and release a seed in front of the camera. Following many tests, an exposure of a half second was found to give the best image.

Another example is the seed of a Javan Cucumber (*Alsomitra macrocarpa*), from Borneo. This is a huge seed nearly 10cm across. This seed glides down onto the forest floor rather than spiralling. Again, the shot here took many attempts. Rear curtain flash synchronisation was used to show a trailing edge, indicating direction of travel.



Finally, tropisms can make good photographic subjects. A tropism is the reaction of a plant to an external stimulus such as touch (thigmotropism), light (phototropism) or gravity (geotropism). Examples of a touch induced stimulus are the Cape Stock Rose (*Sparmannia africana*), and the Sensitive Plant (*Mimosa pudica*) shown here. The images show a stem in its upright position, and then collapsing after being touched with a paintbrush. A half second exposure was used to capture the movement of the stem collapsing.

My new book 'Photographing the Unseen World' (Crowood Press) illustrates many other examples of plant actions.



### Photographs

Above left: Sycamore (*Acer pseudoplatanus*) seed spiralling down from a tree. This is a three exposure composite image, produced in Photoshop, combining a static shot of the leaves, a spiral created by the falling seed, shot at a half second, and a single seed frozen in flight taken from a stroboscopic sequence shot using the 'repeating flash' mode on a Nikon Speedlight. Above right: Sensitive Plant (*Mimosa pudica*) showing collapse of stem after being touched with a paintbrush.

Opposite clockwise: Pendulous Sedge (*Carex pendula*) Pollen being released in spring. The stem was tapped with a pencil to release the pollen. The background used was an ink jet print of out of focus vegetation, underlit to keep it dark., Pussy Willow, Earthstar fungus (*Geastrum triplex*) discharging spores following impact from a falling water drop. The patterns created in the spore cloud can be very beautiful and Common Oak (*Quercus robur*). Pollen being released from male flowers.



# YOUR CAMERA HAS A VIDEO BUTTON

## MIKE LANE FRPS

I am remarkably poor at predicting the future of wildlife photography. When I think something is going to catch on and become popular it fades into obscurity. Likewise, if I belittle a piece of new technology you can be very sure that it will dominate the market.

No surprise then that when a few years ago I said, "We will all soon be shooting video clips on our DSLRs and extracting stills images from it," I could not have been more wrong.

Many DSLRs have an option to shoot 4k video and very soon 8k will be available. In round figures 8k will mean 8000 pixels wide images per frame. Huge! But it appears most nature photographers have not found the video button yet and it is much under used.

I have been dabbling with video for many years. If my subject was still there after I had taken all the stills pictures I required, I would then shoot a bit of video. At home I would review the video and nearly always delete it, because it was rubbish! It was out of focus, jittery, jerky, had dust spots from the sensor and the sound

track was usually appalling.

With my Canon cameras I always had issues with dust on the sensors. I would have them cleaned every six months or so, but within days the first bit of dust would reappear. Dust spot removal is simple enough on a still image and had to be done on almost every image. Video is not so straight forward. There is a method, but I never attempted it.

When I switched to Olympus micro four thirds cameras the dust problem disappeared. It is rare to get any dust on the sensor and when it does appear the self-cleaning system shakes it off. The standard of my video clips went up a notch and I started to think about the other issues I had previously encountered.

The jittery effect was because I had ignored a basic rule of video: the shutter speed should be twice the frame rate. For example, if you shoot at 30 fps the shutter speed should be 1/60th. Typically, I was shooting at much faster shutter speeds so each frame was too sharp and did not blend into the next frame properly. This gives a flickery cartoonish look to video.







The jerkiness was solved by using a fluid head on a heavier metal tripod rather than the lighter Manfrotto I use for still photography.

The poor sound track was the easiest problem to solve. I simply switched the sound off! Most professional wildlife filmmaking is done with the sound off and dubbed on afterwards. Even with singing birds I have become proficient at adding the song afterwards, synching it to the moving bill. I have bought a rifle mic, which I use occasionally for singing birds.

Focus remains the biggest issue. Autofocus does not work well in video mode and usually manual focus is required. Even using focus assists like Peaking Manual Focus is not easy with a fast moving subject. A 5 inch external monitor fitted to the hot shoe helps by providing a larger image to manually focus on. However after so many years of relying on autofocus I really miss it.

Now I am taking video more seriously the standard of my clips has rocketed. Today I shoot video first and, if my subject is still there when I have finished, take a few stills afterwards.

I hardly know anyone who shoots video and that makes the learning curve longer as there are few people to chat with and compare notes with. Much of my knowledge comes from Google and YouTube.

Then there is the problem of what to do with the

results. There are only a few competitions to enter, camera clubs do not feature video in their programmes and there are only a few web sites for posting videos. I cannot illustrate this article with video clips either!

Some of my efforts can be seen on my website. They vary from short clips of wildlife to me explaining techniques to the camera. At first I was very self-conscious talking in front of the camera, but now I actually look forward to it. What surprises me most is how much I enjoy editing. I expected to find it tedious and frustrating, but I enjoy joining video clips together almost as much as taking them.

While I have used Adobe Premier and other well-known video editing packages, I do not find them user friendly. There are much easier products on the market. I use Cyberlink Powerdirector 17, which is far more intuitive and enjoyable to use.

The main advantage of taking wildlife video over still shots is that video can tell a story. To be able to see wildlife behaviour in a moving picture shows so much more than a still image ever can.

If you do get around to finding the video record button on your camera try using it and then dig a bit deeper. For example, find out how to use the slow motion feature. My Olympus will do 5 times slow motion and makes the wildlife looks wonderful. It has become my default setting.





### Photographs

*Previous page; Grey Heron and Video Mode*

*Here; Little Grebe and Little-ringed Plover*

*Opposite; Grasshopper Warbler and Kingfisher*





# Lockdown project

## BIRDS OF THE RIVER THAMES

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PAUL S. DIETTE

In late March as the Covid-19 lockdown started I took delivery of a new Nikon Z 50 DX-format mirrorless camera and a 50-250mm lens. On the DX format this lens has a maximum focal length of 375mm. I bought this to go with my Nikon Z 6 with its 24-70mm zoom lens to shoot motorcycles and vintage racing cars blasting around the circuit at Goodwood. Lock-down postponed this idea but, as it turned, out the Z 50 was just the ticket for the months ahead.

We live on the sixth floor of a block overlooking the River Thames just east of Tower Bridge. One morning my wife called me out onto our balcony to see a large bird drying its wings on a nearby marine piling. I grabbed the Z 50, set the zoom to its maximum, and shot some images of our local sunbather. The photos were fine, with great detail and enough colour to start some moderate post-production enhancements. Unknown to me at the time, I had just started my lockdown photography project which would become an online exhibit, 'Birds of the River Thames'.

My original motivation was to share these images with my neighbours in the surrounding riverfront buildings, to generate an awareness and appreciation of the beneficial environmental changes that had cleansed the waters of the River Thames.

During lockdown the river was reclaimed by a wide variety of birds, which became much more visible and active in the absence of humans. This exhibit shows some of these birds in action when they were the dominant life force living on and above the temporarily silenced water superhighway of human trade and commerce.

I had no prior significant experience of photographing wildlife, save for some birds at feeders and the occasional coyote or fox from the suburban forests in America. It did not take long to realize that a casual approach would not yield usable results and I began by adapting my military photography skills gained as a pilot with the U.S. Coast Guards to the challenge of photographing birds in flight.

What followed over the next two months was a

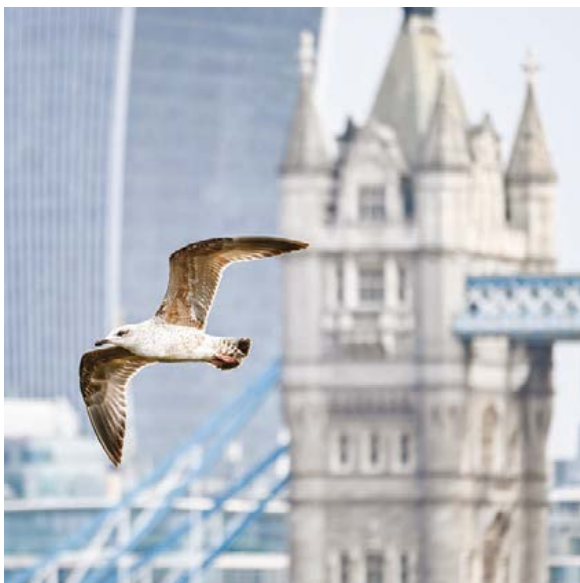


process of discovery and self-development. I learned about birds through observation and listening. I worked on creating new camera techniques and settings and using unfamiliar equipment to improve my bird photography. Ultimately I had proven camera techniques and configurations that would allow me to quickly 'grab and shoot' with a very high degree of confidence of securing a quality image.

I photographed birds every day, morning, noon and night. There was always something new to photograph as different species arrived as spring progressed. I would always review my images on the same day, giving me immediate feedback for refinement. After shooting thousands of pictures, I ended up with the 23 for the exhibit. The settings I largely used were derivatives of the Z 50's built-in Scene Mode for Sports. I copied this to the U1 and U2 user profile slots and modified them in different ways in the light of my experience. I flipped between the two settings while photographing a subject to get the best result.

Capturing fast moving sports or wildlife subjects through a single-eye viewfinder is a huge challenge. This is because of the loss of peripheral and binocular vision that lets you perceive and anticipate the motion of approaching targets. You also lose the ability to accurately judge the constantly changing speed and direction of subjects moving across the field of view. The longer the lens, the less peripheral the vision and the harder it becomes to track fast moving subjects.

Nikon recently released a wonderful new gadget to help with this problem: the Nikon Dot Sight DF-M1. Holding the camera in front of your face and looking at its screen with both eyes open it provides the photographer with full 170-degrees of peripheral vision enabling easier tracking of fast moving birds in flight. It mounts on any flash hot shoe, so and can be used with just about any medium or large camera body. It has both azimuth and elevation adjustment knobs for precisely calibrating alignment, which is done in advance with a distant target at your zoom's longest focal length. It provides the user with the choice of a red or green screen, the former for dusk and night photography and the latter for full sunlight, it also has a wide range of brightness settings. When used in combination with a fast burst mode and some optimized focus settings, the success rate for taking good photographs of birds in flight greatly improves.



I kept an eye out for new species to photograph looking for fleeting flashes of new colours, flight patterns and behaviour. I found that different species arrived at different times of the day. For example, a small flock of Ring-necked Parakeets always made a high-speed dash north across the river to Wapping about 60-minutes before sunset. Alas they were nearly always too fast for me to capture in focus!

I learned to identify birds from their song, which was helped by the eerie silence of London. My growing knowledge of bird behaviour was helpful too. The marked change in the behaviour of a group of feral pigeons sounded the alarm to grab my camera so that I was ready to photograph the arrival of the male Peregrine Falcon with its flashes of yellow beak and razor sharp talons.

I always kept the Z 50 with a fresh battery, preconfigured with the aligned Dot Sight with the 50-250 lens near the door to the balcony.

The Z 50 is a cropped sensor 21-megapixel camera and there is multiplier to calculate the 35mm equivalent lens focal length. This is 1.5x for the Z 50. The same 1.5x coefficient applies to the light gathering ability of the lens making this lens equivalent to a 75-375 mm f/6.8-9.5 VR. To compensate for the lack of light entering the camera in low light conditions I had to raise the ISO. While the resulting photographs may look good in the online gallery, most are too grainy to support large format prints.

One exception is the mallard duck landing





sequence, a montage of 10 images that were panned at five frames per second in burst mode, then combined using Photoshop. The marine piling in the image allowed me to create a properly spaced landing sequence.

It was great fun to see the birds in all their living glory, especially to see some raise their chicks to adulthood. Each species had their own daily routine and rhythm, and some were very territorial when competing for space with other species. Some launched into flight from the water with alternating leg strokes while running, while others flogged the water with both feet in parallel. I think the birds with the greatest spirit for fun were the Mallards that spent significant amounts of time each afternoon joining into a flight of four or five birds sweeping at great speed around anything and everything in their spontaneous display.

Now that we have passed the first full lock-down and into what I call "loose-down", the level of river traffic and its inevitable pollution has increased and been sufficient to drive many of these birds off to their next destinations. I am sorry to see them go but it was an honour and a delight to photograph them as my lock-down photography project.

When it was time to open the exhibit, lockdown meant that a live gallery opening was out of the question and I looked for a web platform to host this exhibit and one that could also evolve into a platform for a broader portfolio of subjects and eventual e-commerce sales for my fine art photography. I started with PhotoShelter.com for the original exhibition and it is still my preferred portfolio solution with crosslinks over to Pic-Time.com for their excellent worldwide e-commerce platforms. Keep an eye out for the 'Birds of the River Thames'! (FoundLightPhotographer.com.)

Scenario →	Static Bird (P)	In Flight (U1)	Very Fast Flight (U2)
Release Mode	Single-frame	Continuous H for 5 fps	Continuous H (extended) for 11 fps
Exposure Mode	Programed Auto	Sports	Shutter Priority
Metering Mode	Center-Weighted	Matrix	Matrix
Focus Mode	AF-A	AF-C	AF-A
AF-Area Mode	Wide Area AF (S)	Wide Area AF (L)	Dynamic
VR	ON (SPORT)	ON (SPORT)	ON (SPORT)
Aperture	Auto	Auto	Auto
Shutter	Auto	Auto	1/4000s
ISO	Auto	Auto	Auto
White Balance	Auto1	Auto1	Auto1
Picture Control	[A] AUTO	[SD] STANDARD	[A] AUTO

Table showing the use of the U1 & U2 storage buttons.

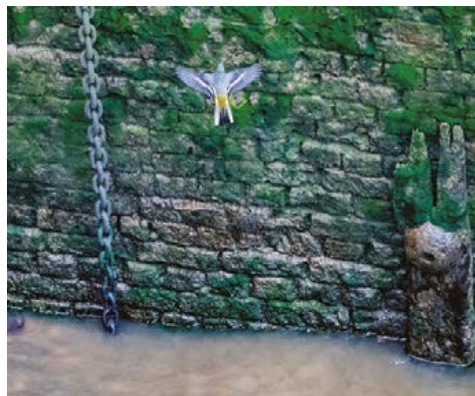


### Photographs

*Previous Pages:* Cormorant taking off and juvenile European Herring Gull flying in front of Tower Bridge.

*Opposite:* Male Peregrine Falcon, Carrion Crow With leucistic plumage and Cormorant drying.

*Above:* Grey Heron landing on an old pier.



## Photographs

*Clockwise: Male Mallard landing on an old pier piling in the River Thames. A time lapse sequence - 10 frames montage, Mated pair of Greylag Geese with five goslings in flight.*

**FoundLightPhotography.com**







### Two more lockdown photographs

Above: Male and female Marbled Whites by Qasim Syed,  
Below: Young Jay bathing by Roger Clark.







## **RPS Nature Group - Residential Weekend**

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FSC Blencathra Centre, Cumbria. Friday 25<sup>th</sup> - Monday 28<sup>th</sup> June 2021

In response to requests from RPS NG members in the North of England/Scotland, the annual summer Nature Group Residential Field Meeting is to be held at the FSC Blencathra Centre in Cumbria in June 2021. Potentially involves an additional trip to the Ainsdale Dunes on Thursday 24<sup>th</sup> June to photograph dune activity. An additional guide will be present on the day. Booking accommodation and meals for this activity are the responsibility of each attendee.

The weekend includes around 8-10 photographic sessions, evening speakers, three nights basic accommodation in single or twin rooms, all meals & soft drinks. Transportation to all sites will be provided though a small fee may be payable. The sessions will be based around macro photography though there may be additional opportunities to photograph birds or landscapes.

There are 16 available places: 10 in single rooms (£260 each) and 6 in twin rooms (£245 each). A deposit of £125 is required to secure your place. When booking, please state your preferred room type plus any dietary requirements.

See the RPS Nature Group website for online booking details or contact:

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