



The Secret Nature of
FUNGI

Robert Thompson

The Secret Nature Of Fungi

As we approach the end of another British summer, the days are getting shorter and there is a recognisable chill in the evening air. As the flowers and insects fade, the first of the fungi begin to make an appearance. **Robert Thompson** unveils the secret nature of fungi

Fungi are a unique and intriguing group of organisms. Their popularity as photographic subjects has increased significantly in recent times among macro photographers. However, this was not always the case as many were of the opinion that fungi, from a photographic point of view, were difficult to get enthusiastic about. This is certainly not the case; many are colourful and their bizarre shapes and structures make for eye-catching photographs. The Panther Cap, Dog Stinkhorn, Destroying Angel and the Fly Agaric are just some of the captivating names that characterise this curious collection of organisms.

There are over 3,000 species of fungi that have been described in the British Isles and no doubt there are many others, which have yet to be discovered. One of the main reasons for the upsurge is the number of publications now available, which has made the identification process much easier. However, the down side to this has been the attention generated among the gastronomic

community, which has led to the proliferation of many species of wild mushrooms on a much greater scale than ever before.

There is a common misconception among people that fungi are related to plants – scientifically they are not. Plants photosynthesise while fungi do not, since they lack the chlorophyll pigment. They also produce spores and not seeds as in plants and obtain sustenance either as saprophytes, feeding on the remains of plants, or exist as parasites. The mushroom or toadstool, which is known as the reproductive part, or fruiting body, is produced from a fine network of cobweb-like threads called mycelium that exist in the soil. »

RIGHT • BONNET MUSHROOM
Mycena Pseudocorticola
Nikon D3X, Nikon 200mm macro
f/16, fill-flash, ISO 100

The bonnet family of mushrooms are pretty numerous and many look like mini umbrellas. The majority of species are found on the woodland floor growing among the leaves, or from fallen twigs and branches. This species is very small and grows on the trunks of mossy trees. I used fill-flash to lighten the underneath as it was in shade and to increase the contrast slightly.

FAR RIGHT • FLY AGARIC
Amanita Muscaria
Nikon D3X, Nikon 200mm macro
f/8, fill-flash, ISO 100

This species is one of the most well-known and photographed fungi. It is common throughout Britain where old established birch woods exist. In this particular photograph I chose to shoot through the foreground moss to create an atmospheric feel to the image. Centre-weighted metering, off camera TTL flash.



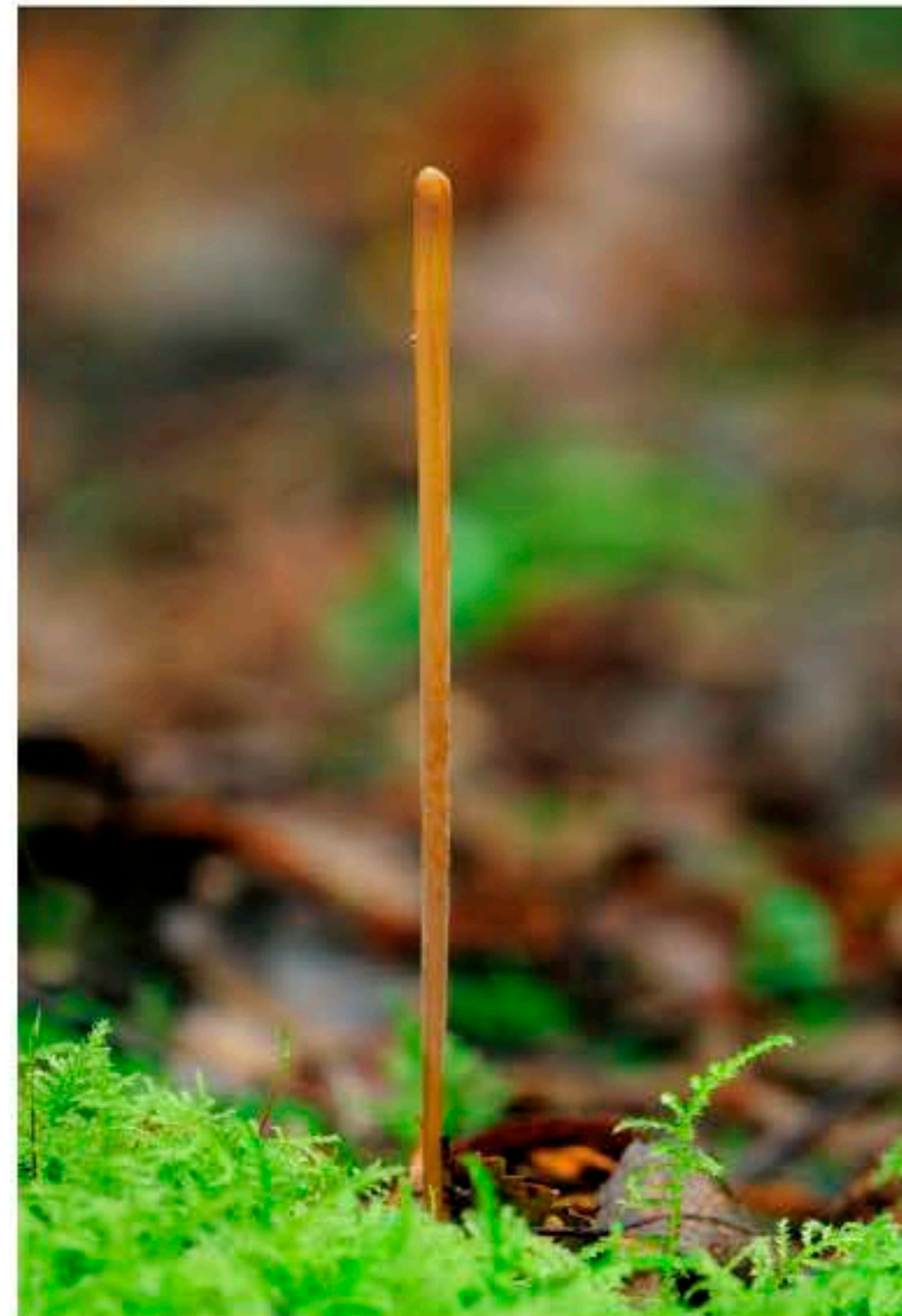
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» My own interest in fungi stems back to my early days as an aspiring macro photographer. The spring and summer months are always demanding – everything seems to flower and emerge at once and I frequently find myself travelling all over the place from one subject to another. Early morning and late evening shoots are common practice to avoid the warm temperatures during the day. However, the constant travelling about does eventually catch up with you as the weeks progress. I was never an enthusiastic dawn photographer, probably because I never seem to manage to get to bed at an acceptable hour. The onset of autumn for me is a bit like easing your foot off the accelerator – the winding down from a busy season and being able to go out and take things at a more leisurely pace. One of the most exciting aspects of fungi photography is the unpredictability of what you are likely to find. Fortunately the peak season is during the autumn months when the woods and ground vegetation are awash with colour and the majority of seasonal invertebrates are coming to an end.

BELOW • PIPE CLUB, MACROTYPHULA FISTULOSA

Nikon D3X, Nikon 200mm macro, f/11, fill-flash, ISO 100
This is a very unusual, but rather fragile fungus, which grows from decaying branches on the woodland floor. Careful gardening was necessary to expose the specimen so I could photograph it head-on.



The best locations for fungi

The ideal conditions for fungi to flourish are a warm summer followed by a mild wet autumn. The most productive time is a few days after rain, especially if the temperature and humidity are high – this often stimulates a flush or emergence. Most fungi produce fruiting bodies from late summer until the onset of the first frosts. A small number of species can be found throughout the winter period providing the dedicated macro photographer with opportunities to continue photographing throughout the least productive part of the year. Spring sees the emergence of the “Morel’s” and some of the cup fungi, which are particularly photogenic. The latter tend to be found on the woodland floor nestled among the various mosses and lichens, which add a colourful background to the subject.

Many fungi have a close association with the habitats they occupy and, in most cases, with a particular plant or tree. If you are targeting a specific species, then you need to be aware of what its requirements are and when it is most likely to emerge. Keep in mind that the seasonal conditions play an important role in the reproductive behaviour of species, and there is no guarantee that they will appear. »

RIGHT • FIBROUS WAXCAP, HYGROCYPE INTERMEDIA

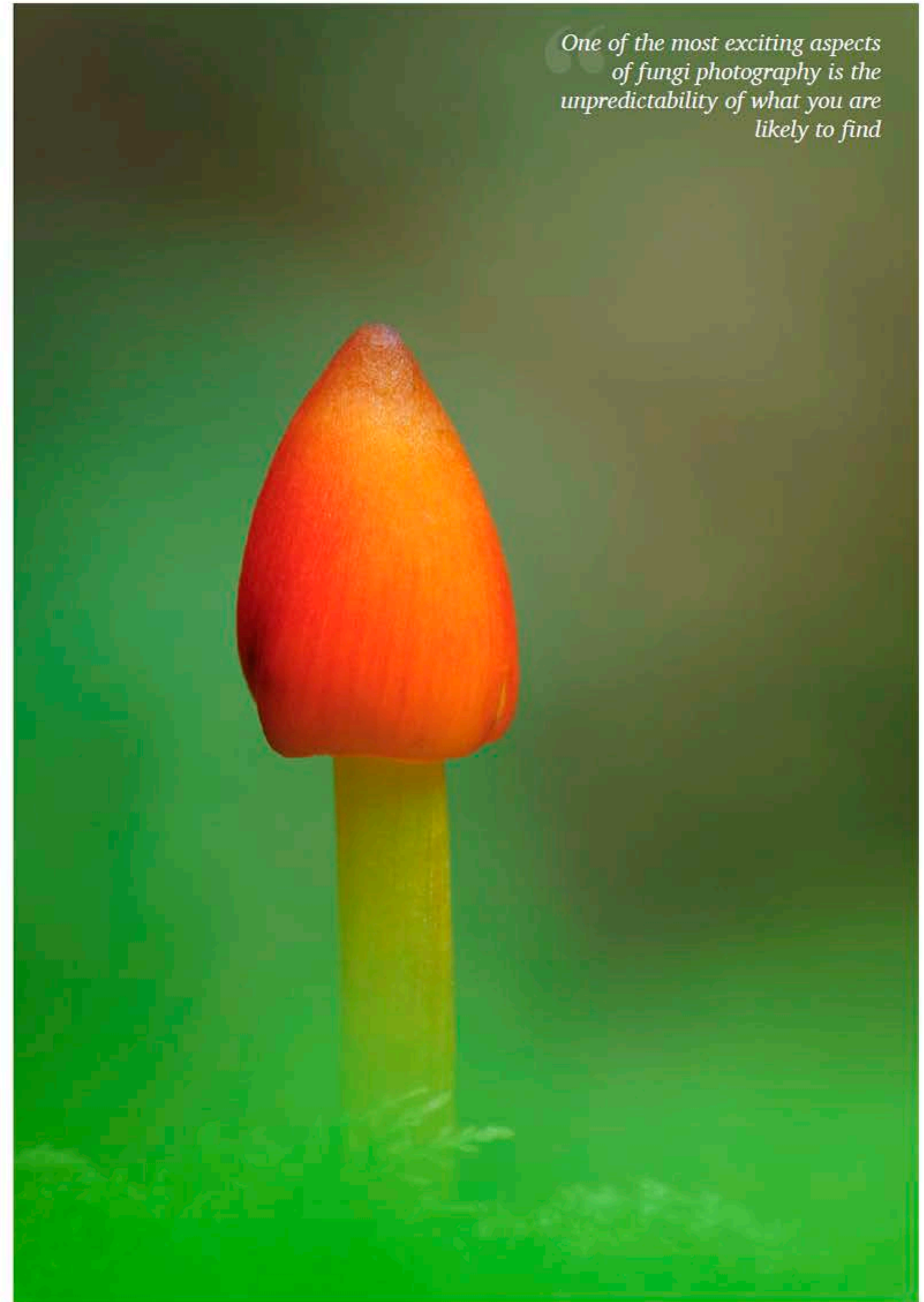
Nikon D3X, Nikon 200mm macro, f/11, fill-flash, ISO 100
All of the waxcap family are colourful and photogenic. I placed my camera on a beanbag flat on the ground and shot through the moss in the foreground to create the soft focus effect.

BELOW • SCARLET ELF CUP

Sarcoscypha Coccinea & Peltigera Membranacea
Nikon D3, Nikon 105mm macro, f/16, fill-flash, ISO 200
A colourful cup fungi, which appears in early spring in damp woodland. It grows on decaying branches, often in groups. In this photo it is fruiting amongst the lichen Peltigera membranacea, which enhances the overall composition.



One of the most exciting aspects of fungi photography is the unpredictability of what you are likely to find



Not all species grow in ideal locations, but it is important to record species as you find them rather than trying to contrive an artificial setting that will be obvious to anyone with knowledge on the subject



» Woodlands that contain a mature population of birch, beech and oak are generally the most productive habitats. Conifer woodlands have less variety of species, although good mature pine woodland is the exception and can be very rich. Other habitats worth exploring are coastal dunes, roadside verges and unimproved grassland – the latter being very good for “waxcaps”, which appear in a variety of colours.

There are many species that grow in relatively open positions and are pretty straightforward in terms of access. The majority, however, are found in woodland, often in dense shade and on decaying tree trunks and fallen branches. There are also species that grow among the leaf litter, and a bit of diligent searching is often required. When weather conditions are favourable many of the common fungi are easily located.

Most species, with the exception of bracket fungi, start to decay relatively quickly and it is important to photograph them when you first see

them. Finding pristine examples free from slug damage, even among common species, is always a challenge. Slugs are the proverbial pain and, despite their so-called lack of speed, still manage to get to the freshly emerged fruiting bodies with amazing rapidity. Some small animals also have a particular fondness for them. Many of the larger gill fungi (mushrooms) grow close to the trunks and root structures of trees. Bracket fungi prefer trunks and branches and the smaller cup-like fungi favour the moss-covered branches, which have fallen on the woodland floor.

Most photographers have their own particular approach and methods for photographing fungi. Some prefer to collect species and photograph them in a studio, where they have complete control over lighting and the setting. I would discourage this approach since fungi are so unpredictable in terms of their appearance and I see no real need to remove them from their environment. From my own point of view, I prefer to photograph them growing in their natural habitats. Images produced in this way are a more accurate representation of nature and reflect the colour and diversity of their natural environment. Not all species grow in ideal locations, but it is important to record species as you find them rather than trying to contrive an artificial setting that will be obvious to anyone with knowledge on the subject. »

LEFT • YELLOW ANTLER, FUNGUS CALOCERA VISCOSA

Nikon D3X, Nikon 300mm + extension tube, f/11, ISO 100

This specimen was in nice condition, however, the background was quite cluttered. The 300mm did a better job of dealing with the background than the 200mm macro, producing a cleaner softer appearance.

RIGHT • BROWN BIRCH BOLETE, LECCINUM SCABRUM

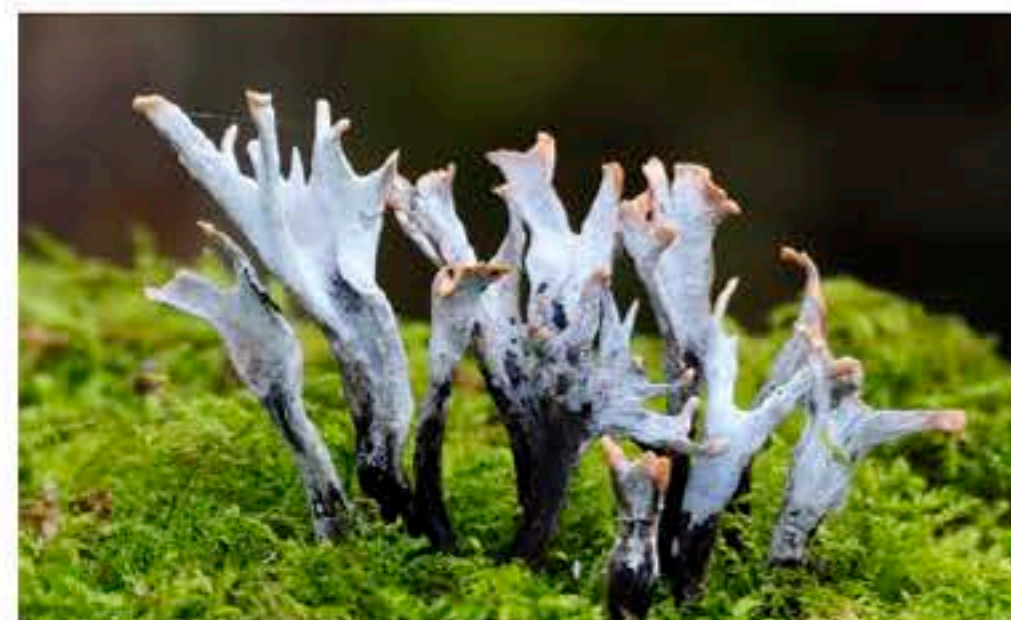
Nikon D3X, Nikon 24mm PCE, f/16, ISO 100

Using wideangle lenses to illustrate the subject in the context of its environment is common practice these days. Shift lenses are ideally suited for this type of picture. However, it does not necessarily work with every subject.

BELOW • CANDLESNUFF FUNGUS, XYLARIA HYPOXYLON

Nikon D3X, Nikon 105mm macro, f/16, ISO 100

This is a very common fungus, which is often seen growing on tree stumps and fallen branches in most woodlands. I chose a focus point towards the centre of the clump and used the DOF button to check that the nearest and the farthest point were sharp.



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- Hand Tool
- Marquee Zoom
- Previous View
- Rotate Clockwise
- Print...
- Find

» Natural light is my preferred approach whenever possible, but I will resort to flash if necessary – but usually as a fill-in rather than the main light source. I shoot in aperture priority and occasionally manual in some situations, especially in difficult lighting or where the subject is not mid-toned. A sturdy tripod that is capable of resting flat on the ground is essential since many of your subjects will only be a few inches above it and exposures can run into seconds – even longer in some situations. Having a beanbag is also useful when you need to position the camera body flat on the ground. Also, I shoot entirely 'raw' and apply no in-camera noise reduction – I prefer to have control over this and will make any adjustment in the software when necessary. Like any other photographic discipline, having a sound methodical approach and technique are essential.

Since there is quite a lot of wandering about when working with fungi, I don't burden myself with a heavy bag that is overflowing with gear. The weight gets to you before long, which affects your comfort and, therefore, your concentration. On the wide-angle front, I generally take the 24-70mm or the 24mm PCE (tilt/shift) – but not usually both. These lenses are useful for placing subjects within the context of their environment and where you may be working a subject above your head. I also

use a 105mm, which in my opinion is one of the best all-round macro lenses. It is also useful when you are restricted for space. The 200mm macro has a narrower field of view and is excellent at isolating subjects from their backgrounds. When space permits, it is a more comfortable lens to work with, and the rotating tripod collar allows a smooth transition from horizontal to vertical format without the need to refocus or remove the camera from the tripod head. The 300mm lens in combination with extension tubes is an excellent choice when the background is chaotic, and you want to create a very soft look to the image.

IN THE FIELD

Natural Light

There is a quality and ambiance about natural light that makes it virtually impossible to replicate by any artificial means. I favour this approach with fungi whenever the conditions and the position of the subject allow me to do so. Things to be aware of when working with natural light include a shift in colour, where the overhead foliage can influence the colour balance of the image. Sunlight is another factor to consider as it causes harsh shadows on the subject and the background. These conditions are best dealt with by using a large diffuser, which

softens the light, producing a more balanced appearance. A diffuser is also useful as a windbreak; you can also fire your flash through it, which produces a soft, even light.

Flash

There are many situations where natural light alone is not sufficient to achieve an acceptable result. I find in many situations that using flash in combination with natural light works very well with fungi, since these are static subjects. Flash is also useful for reducing heavy shadows and contrast in difficult lighting conditions. I no longer see the need for reflectors; I use diffusers on my flashguns as they produce a soft, even light. If balanced correctly with the ambient light, flash should not be that evident in the final picture. I occasionally use it as the primary light source when I want a particular lighting effect and also, in some situations, to darken an untidy background, by switching to manual and altering the ambient to flash ratio, which allows the background to appear darker.

As a rule, I set my white balance manually, so my images have the same colour temperature. This makes it easier to make global adjustments in the software when necessary. I use Nikon's R1C1 macro flash system in the field, a light and versatile setup. I can programme each unit individually to create

the desired effect. I use them most of the time "off camera" on special flexible spikes, which I designed – this allows me to place them in any position I choose.

Filters

I don't use filters on a regular basis, but a polariser is useful when it has been raining; this helps in removing reflections off the fungal caps and increases colour saturation. A polariser is also beneficial in bright sunlight as it can reduce glare and even out contrast. Graduated Neutral Density Filters are useful for balancing the exposure between sky and subject.

Selective Gardening

It is not uncommon to find species surrounded by vegetation. As photographers, it is in our nature to tweak things a little to improve the composition, or to remove bits of foliage and any other artefacts that may compromise the final appearance of the photograph. This is fine, providing it does not involve damage or removal of other plants. However, excessive tweaking can look a bit too obvious and compromise the aesthetics. Be selective, but don't over do it! I have, on a few occasions, been over zealous in my endeavours and have regretted doing so. A better solution is to photograph it first as it is »

Nikon SB 200 flash units on the custom made spikes and controlled from the commander unit

RIGHT • PESTLE PUFFBALL, *HANDKEA EXCIPULIFORMIS*

Nikon D3X, Nikon 200mm + extension tube, f/11, ISO 100

I wanted to control the amount of light on the background. The overhead canopy was quite dense with very little light penetrating through. I switched to manual and used full flash on my custom-made spikes and regulated the flash output so I could reduce the ambient light to make the background appear darker.

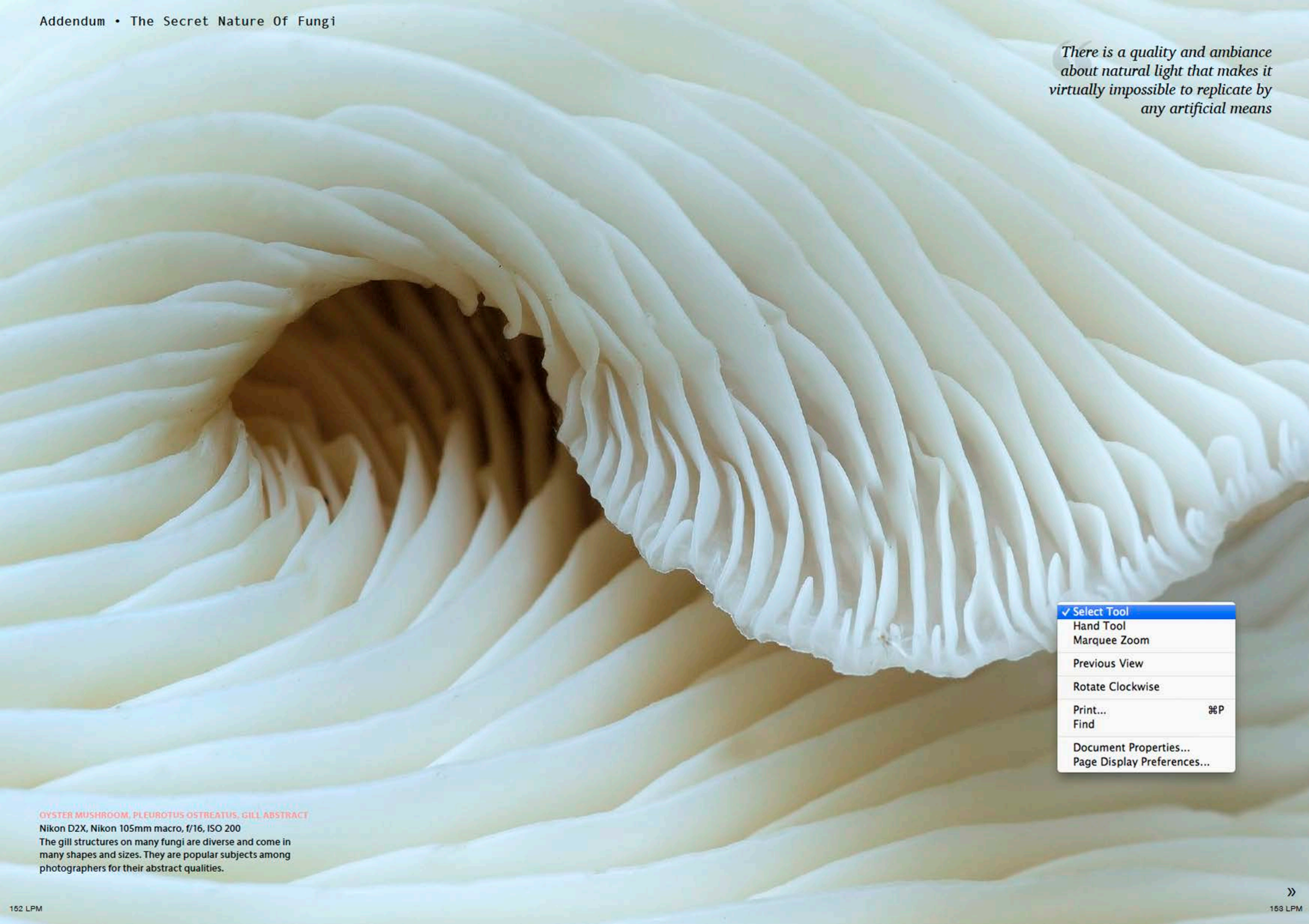
BELOW • TAWNY GRISETTE, *AMANITA FULVA*

Mamiya 645 AFD, Mamiya 120mm macro, f/11, Fuji Velvia

These two images illustrate the difference a diffuser can make in conditions of high contrast; it was placed between the sun and the subject. In a situation such as this, it would be significantly more challenging to achieve an acceptable result without a diffuser.



There is a quality and ambiance about natural light that makes it virtually impossible to replicate by any artificial means



- ✓ Select Tool
- Hand Tool
- Marquee Zoom
- Previous View
- Rotate Clockwise
- Print... ⌘P
- Find
- Document Properties...
- Page Display Preferences...

OYSTER MUSHROOM, PLEUROTUS OSTREATUS, GILL ABSTRACT

Nikon D2X, Nikon 105mm macro, f/16, ISO 200

The gill structures on many fungi are diverse and come in many shapes and sizes. They are popular subjects among photographers for their abstract qualities.

» and then make any minor tweaks to the surrounding foliage, that way you have both options. Using your depth of field preview to check how the final image will appear is a good way of picking up any unsightly highlights, or any obtrusive bits of foliage, which you may have missed.

Defining what constitutes a good composition is often difficult to put into words. An individual's perception on a subject generally differs to another's. I am not a stickler for following the usual protocols; I rely completely on my own judgement. I believe a discerning eye for the components that form the structure of a successful photograph are much more important. Also keep in mind that no matter how skilful you are with a camera, not every species you photograph is a "jaw dropper" – the

majority are not, but some definitely are. Evaluate the subject from different viewpoints – even the undersides. The various gill structures on species often make interesting abstracts, as well. ✦

Here is a list of websites that have lots of useful information on fungi.

British Mycological Society
www.britmycolsoc.org.uk
Northern Ireland Fungus Group
www.nifg.org.uk
Rodgers Mushrooms
www.rogersmushrooms.com
Wild About Britain
www.wildaboutbritain.co.uk

RIGHT • DOG STINKHORN, MUTINUS CANINUS

Nikon D3X, Nikon 200mm, f/11, fill-flash, ISO 200

This is the smaller of the two regularly recorded phallus-like structures, which are common in broad-leaved woodland. These fungi are particularly photogenic and have a honey comb-like structure to the stem, which is delicate and easily damaged.

BELOW • YELLOW BRAIN FUNGUS, TREMELLA MESENTERICA

Nikon D3, Nikon 200mm, f/11, fill-flash, ISO 200

This unusually large jelly fungus was growing low down on the branch of a gorse bush. I cleared the grass from the foreground and tied up a branch in the background, which resulted in a much cleaner background.



Robert Thompson

Robert Thompson is an accomplished Natural History Photographer, writer, and naturalist living in Ireland. He is an acclaimed macro specialist and author of a number of books on natural history and photography. His work is widely published in the UK, Ireland and internationally. To view his work visit

www.robertthompsonphotography.com



[Back to contents page](#)