PHOTOGRAPHING FUNGI — 8

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CHOOSING AND USING EQUIPMENT

I have deliberately chosen to end the series with this topic rather than to begin with it as by now the reader will have some idea of the demands which will be made on the equipment. Finance plays a large part in deciding whether to change your camera, if at all, and there is little doubt that you will get what you pay for. Nevertheless, finance apart, there are features which can be found in cameras of varying prices and should be looked for. I shall deal only with 35 mm single-lens reflex cameras. It would take a separate article to consider **'medium format'.**

The features to look for are as follows:

CAMERA

Viewfinder: — This should be as large as possible, especially for spectacle wearers. **Pentax** and **Canon** make, for some models, an interchangeable finder which rotates through 90 degrees and is large enough to use with spectacles in place. The rotation makes it possible to view the image from above the camera which is helpful in awkward positions. Other makes have attachments called **'Right angle finders'** which perform the same function but are less suitable for spectacle wearers.

Viewing screen: — The usual screen has, at its centre, a microprism focussing device. This is of little use in close-up photography and tends to encourage placement of the subject in the dead centre of the picture. It is desirable to seek a camera with interchangeable viewing screens and to get a screen which has no central focussing device but is plain all over, possibly with a grid of horizontal and vertical lines, which do help composition and make it possible to judge the focus anywhere on the screen.

Metering: — The value of **'Through The Lens'** metering cannot be overstressed. It is usual in the majority of SLRs. There are two types: (a) meters the light **before** the exposure, and (b) meters the light **during** exposure (known as 'off the film'). The latter is preferable for two reasons. One is that it is usually able to meter much longer exposures and the other is that it is capable of adapting to light changes which take place during the period that the shutter is open, such as the addition of a flash or the sun going behind a cloud.

Exposure control: — As I have indicated earlier all an exposure can do is to try to produce a good reproduction of an 18% reflective card. It is deceived by a large area of sky in the picture, by photographing into the light and by the problem of **Reciprocity Failure**. It is necessary therefore to have some means for this correction, and this is usually provided by a dial in the area of the film-speed control knob. It may be calibrated as $\times 1$, $\times 2$, $\times 3$ or $+1$, $+2$, $+3$. In the former case it means what is says, which is 'times 1' etc. The latter calibration means the numbers of 'stops' by which it is increased and here it means that the exposure is **doubled each time** so $+1$ means **one extra stop** or **double the exposure**; similarly '$+2$' means two stops or four times, and $+3$ is eight times. Confusing isn't it? Some are calibrated with intermediate points, a desirable feature. **When you have used this facility do not forget to reset it or all subsequent exposures will be over-exposed.**

Delayed action: — As one who can never keep a cable release for more than a week I find that the delayed action is invaluable for fungi. Once the camera is set I wind on and set the delayed action, then compose and focus, setting up the reflector as needed. I then press the release button and wait. There is a whirring sound for 12 seconds followed by a click as the shutter **opens**. An appropriate time later there is another click as it **closes**. Many is the time I have been tempted to pick up the camera after the first click and so wasted an exposure.

Motor Drive: — If you are in the habit of duplicating your pictures a motor drive means that the two pictures will be identical. Otherwise there is a very real danger that you will move the camera slightly as you rewind.

CHOICE OF LENS

All SLR cameras have interchangeable lenses and if you are buying a new one there is no need to have the standard lens supplied. In addition to the series of lenses listed by the camera manufacturer there are independently produced lenses which can be bought to fit ANY camera and are often of excellent quality (once more the price is a good guide), though tests carried out by the popular camera magazines can sometimes be helpful.

Any degree of enlargement or reduction down to 1:1 (that is the size of the subject is the same as the size on the film) can be obtained with a standard lens of 50 mm focal length by inserting **extension tubes** between the lens and the camera. To save the trouble of doing this a **'macro-lens'** can be used instead. There are, however, two disadvantages: (a) most macro-lenses cannot produce an image larger than half life-size, and (b) their construction limits them to smaller maximum apertures. You will never use the maximum aperture to take the photograph but it is handy to have the extra light and critical sharpness for focussing.

Standard and wide-angle lenses enable the environment to be shown more convincingly but, where the more distant background is of no concern, a longer focal length of 90 mm or 100 mm can be used and has the advantage that it is obtainable in larger apertures (the **Tamron 90 mm** has an aperture of f2.5, for example) and whilst these lenses also reproduce to half life-size, this can be increased to 1:1 by inserting a $\times 2$ convertor between the lens and the camera without loss of quality. For enlargement beyond this the standard lens can be used back to front in a special mount but this involves adaptations which are beyond the scope of this series.

Lastly there are two accessories which add greatly to ease of working; one is a good solid **tripod** as suggested earlier, and the second is a solid rack-and-pinion **camera mount**. The latter is simply a device which is fitted on top of the tripod and under the camera and enables the camera to be moved back and forth by turning a knob. It is needed for very close-up work as, at this range, it is easier to set the focussing (and magnification) and then move the camera until the subject is in focus.