

Cave Photography - Getting Started

David Wools-Cobb

INTRODUCTION TO CAVE PHOTOGRAPHY

Many cavers I have spoken with over the years have shown an interest in cave photography, but seem to feel intimidated, or disappointed with their results. In this paper I will be outlining a fairly basic approach to getting started. I will be examining what is the best equipment to start out with. You certainly don't have to spend a lot of money to get into cave photography. In fact I will explain later that spending lots of money can be a big mistake.

Taking photos in a cave will influence just how you see a cave environment. Cavers go caving for all sorts of reasons; not the least is to record part of the incredible environment underground. It's a way of sharing some of the most magnificent wonders of nature with others that may never have the privilege of seeing.

THE CAVING ENVIRONMENT

Caving offers incredible challenges, both to cavers personally and more particularly, to their photographic equipment. Caves can be wet, muddy or dry & dusty. Gear can be ruined in just one trip if not protected. I will discuss packing for a trip in order to protect your gear later on.

What is special about the cave environment is that, apart from the proximity to entrances, it's totally dark. That means that YOU control all the light. How you light up a scene and how this light gets to your film will determine the final result. A cave photographer has incredible control. However, that doesn't make it easy. Focussing in low light is particularly difficult. Framing your shot so that it's horizontal or vertical is also difficult. Deciding how much of the scene to include and what position to take the shot from are often also difficult decisions. The most difficult issue is of course HOW to light a scene. Most of these more technical issues will be covered in my other paper: "Getting Good Photos".

THE CAMERA

This is where it all starts, but many cavers make the mistake of purchasing an extremely versatile, high tech. electronic unit capable of nearly anything. Caves can be brutal to such gear. I believe it pays to use a simple, robust camera- best purchased second-hand. Then if ruined it doesn't hurt quite so much. The ideal camera is capable of operating without a battery- this is rare these days. It also would have a built in light metre; of no use in a cave, but good outside and around entrances.

The camera must be capable of a "BULB" setting, preferably with a lock. This means the shutter can be locked open for as long as the photographer decides. A flash hot shoe is also an advantage. I personally prefer single lens reflex cameras to the range-finder type, which are less expensive, but often not as versatile. My choices are some of the old Pentax series- K1000, MX, ME. Olympus OM series are also suitable.

Check out the second-hand camera stores, but ensure the camera comes with some guarantee. The disadvantages of a single lens reflex is their size; often bulky & heavy, however the variety of lenses available and the fact that you are looking at the scene you're photographing are definite advantages.

The modern "point & shoot" cameras with reasonable ability for the photographer to make some aperture adjustments and a zoom lens are much smaller, and if the user fully understands how to use them can provide good results.

Digital cameras are becoming very popular both above and below the surface. Currently I'm still learning what's possible and impossible with these. Digitals are certainly not as robust as SLR's, but are smaller and some models can be very versatile, enabling the photographer to set

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apertures, etc. Many digitals seem to have difficult focussing, whilst others give superb results. Many digitals also don't seem to be able to handle additional flashes from an electronic flash, and others set off slave units with their infra-red focus beam and/or their "automatic" red-eye reduction. The quality and features of digitals seems to vary immensely, with features changing dramatically with the issue of the next model - not always for the better.

The advantage of digital of course is that you can SEE exactly what your photograph looks like, so if you don't like it, you can take it again. The disadvantage is that it can cost you a fortune to print your photos. Many digital photographers prefer to keep their photos in digital format, easy to put on to a television screen or to e-mail.

I believe our friend Arthur Clarke still holds the world record for the number of photos on a caving trip, averaging at 1/39.5 seconds!?

THE LENS

A rangefinder camera often has a fixed lens, which severely limits how a shot can be composed. Many also have a fixed aperture, which further limits the choices of the photographer. More modern ones often have a zoom lens, which is a great advantage to frame a shot.

Single lens reflexes offers a huge choice of lens, although my preference is to use a moderate zoom: say 35-80. With this you can frame the shot just as you wish. A great advantage is a "fast" lens- this means the lens can be opened up a long way, thus allowing more light in. Bearing in mind we're working in a dark environment, if you can open up the lens to a wide aperture, say f2 or better, then either less light is needed or the flash can be much further away from the subject.

THE FLASH

The vast majority of caver photographers use electronic flashes. Flash bulbs, which are great for caves are becoming rare. They generally give more light for their size, and a slower, softer light. Flash bulbs can give great results where water movement is involved. Electronic flashes are easy to use, give a fast flash, often between 1/10000 & 1/2000 of a second, recharging quickly ready for the next shot. Their light is harsher than a bulb flash and the flash beam is generally narrower.

A good flash should be simple to operate, with a manual firing button and in-built batteries. A hot shoe is an advantage, both for on-camera use and for flash-slave attachments. An ability to reduce the flash power is often an advantage.

Many flashes come with auto modes; this is not always an advantage, as I'll explain in my second paper. Some flash units are also dedicated to a particular camera. This is rarely an advantage, as often the flash unit is not mounted on the camera. Unfortunately almost all flash units currently on the market are dedicated to something- a feature you pay a lot for and may rarely use.

ACCESSORIES

The number one accessory one should consider is a flash slave. This is an electronic light sensor that sets the flash off when it detects a pulse of light. The quality of flash slaves on the market varies incredibly. I personally have found that most are not suitable for caving. Their electronics don't handle high humidity, and often they are not sensitive enough to work some distance from the main flash. The best I've found is the English "Fire-Fly 2". These are extremely reliable, built for caving and the manufacturer claims that they can detect a pulse of light at 500m. If setting up a big difficult shot, climbing over a rockfall, etc you need a slave that will ALWAYS work. Fire-Fly 2 is expensive, but so is the film and time you waste on an unreliable slave.

The next accessory to consider is a tripod. This enables you to set up the camera exactly how you want, with the shot framed. You can then lock the shutter open on bulb, knowing that the camera won't move, unless some idiot bumps it. A tripod also enables a photographer to work alone or with a minimal number of assistants. The ideal tripod is light, yet robust, folds down small to fit in your caving pack, and has a "ball head" which enable the camera to moved in both the horizontal

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and vertical plain. This allows the photographer to set up the shot quickly. One can adapt other things for tripods: rock ledges, cave packs, or small beanbags. Unless you enjoy lying in mud, the very small tripods that are sometimes given away are of no use for a camera, but they can come in handy to mount a flash unit.

Another accessory is a diffuser for your flash unit. This lessens the harshness of the flash, often giving it a wider beam, but with the consequential loss of flash power.

A cable release is also a virtual necessity. This enables the photo to be taken without disturbing the camera set up, and more importantly, allows the shutter to be locked open. These come in a variety of lengths and qualities. 30cm is easily enough, and metal sleeved ones seem to last much longer.

PACKING FOR A TRIP

As mentioned before, a cave is often an unforgiving environment to delicate photographic gear. Water and/or dust proofing gear is essential. Good quality plastic bags, often with everything double-wrapped and sealed off with rubber bands is a cheap way of protecting your gear. Dry bags are even better; these come in a variety of sizes and materials; some are as tough as caving packs. I find the softer ones best as the air in them is more easily expelled and they roll down tighter and take up less room in your pack.

Using long sleeve gloves and removing them before touching your photographic gear is essential in wet muddy caves. An old tea towel also often comes in handy for wiping hands and gear.

To protect gear from physical knocks is an area where many cavers differ in their opinion. I've seen some photographers take huge metal cases into caves, with all gear carefully placed in the foam within. This is unwieldy and much time is taken with unpacking & packing up. Smaller cases, often waterproof, can fit into the average cave pack, but these still leave little room for other gear. I personally prefer to pack my camera & lens in a well-padded soft camera case and the flash units and other accessories in good quality plastic lunch-box-type containers. In the containers each item is bubble wrapped. I have a variety of containers that are quite inexpensive and choose the size for the gear I wish to take. These are all placed in a dry bag. For most trips this still leaves room for vertical gear, lunch and the other necessities. This gives a good excuse as to why someone else should carry the ropes! My system isn't the toughest, and certainly wouldn't stand a pack drop from any height, but so far the only damage suffered has been when I have all the gear out of its protection.

Another idea for gear protection are post office padded bags, but I find these don't last for too many trips.

FILM CHOICE

Some people like slides, some like prints; it's largely a matter of personal choice.

If showing your photography to large groups, then slides are certainly more versatile and offer better quality. Slide film is not as "forgiving" as print film, meaning there's less aperture tolerance. Print film will often handle up to 2 f-stops away from the ideal exposure and still give a good shot. Prints are generally cheaper, can be mounted in an album and easily shown around a small group of people. It's often less expensive to have prints enlarged for wall decorations compared with slides.

Films vary in how quickly they take up light - this is called their speed. The slower the speed, the lower the Iso or ASA rating, the more fine detail in a shot with good textures. A faster film means that less light is required, which is good for caving, but with the resultant loss in fine detail - you get a grainier shot. Most cavers use between 100 and 400ASA. I have yet to be really impressed with film faster than this. "Professional" quality film does give better results if you're prepared to pay for it.

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WHERE TO GET MORE INFORMATION / REFERENCES

Any basic photography text will give you a good grounding in photography but as stated earlier, cave photography has its own special challenges. A good understanding of light, exposure, and flash unit use is important to get good photos. Remember you control all the light, this can be a tremendous advantage. Keep this in mind when you're knee deep in snowmelt water in a Tasmania cave, getting that special shot.

- "The Photo" - a magazine series - good for a general understanding
- "Images Below" - Chris Howes - specific for cave photography, best text I've seen
- "Beyond Basic Photography" - H. Horenstein - generally good all-rounder

SUMMARY

Developing an interest in taking photos in caves can add a whole new aspect to your caving. You certainly don't need to spend a fortune to get set up, in fact I advocate buying a second-hand camera and being prepared to write it off and replace it rather than wrecking that good camera you use for everything else.

You should not rush out and buy up all the gear you think you MIGHT need, start gradually and only purchase gear that you feel will extend your photography. In this paper I have deliberately only covered the basics, not photographic technique.

In my second presentation I'll be discussing HOW to use your equipment effectively in order to get good photos.