# Basic Guide to Identifying Fungi



**Introduction**

Every living thing is classified in their own kingdom of life to make it easier to distinguish them from other species. Fungus (plural fungi) is an organism which includes things like mildew, moulds and the more familiar mushrooms, and are classified in their own kingdom with about 15000 species in UK. Each species has a scientific name to identify it from others but many have a common name which is more useful and easier to remember for a beginner. They don't have a root system like plants do, but use minute hyphae (branching and thread-like filaments) in mycellium to spread over the surface or underground. What you see as mushrooms are the fruiting bodies of the fungus which produce the spores for reproduction. They are found throughout the world in just about any habitat but looking in grassland or on deadwood is a good place to start. Identifying fungi is best done with a fresh specimen as they change colour and shape very quickly as they age. In this guide you will learn the basic shapes and what to look for in the more common species you may come across. You should always take care when handling fungi as some of it will make you quite ill and others are deadly.

**How to Find Fungi and Where to Look**

Fungi reproduces by releasing spores which will land in suitable habitats and grow. Some fungi use the roots from trees as a host and follow the root system. In this case you are likely to see what is commonly known as a Fairy Ring.

You can find some species of fungi all year round, but most are seen during autumn – October and November. It is best to go looking for them after a wet spell followed by some sunshine as this gives good growing conditions. Take a camera and a notebook with you, and a few paper bags so you can collect a few specimens to take home.

Visit a woodland and look around the base of trees, here you will find some common species such as Honey Fungus growing in close groups. If you look higher up on a tree trunk you will see bracket fungi such as Polypore. If you come across any deadwood, which has been left after tree maintenance, you may find Turkey Tail or Velvet Shank. Visiting parks and gardens and looking in short grass could produce Waxcaps or Puffballs, or some of the Coral species. To learn more about fungi and how to identify it successfully you will need an identification book, and there are many available. I have suggested a few at the end of this guide.

Fairy Ring

Honey Fungus around the base of a tree

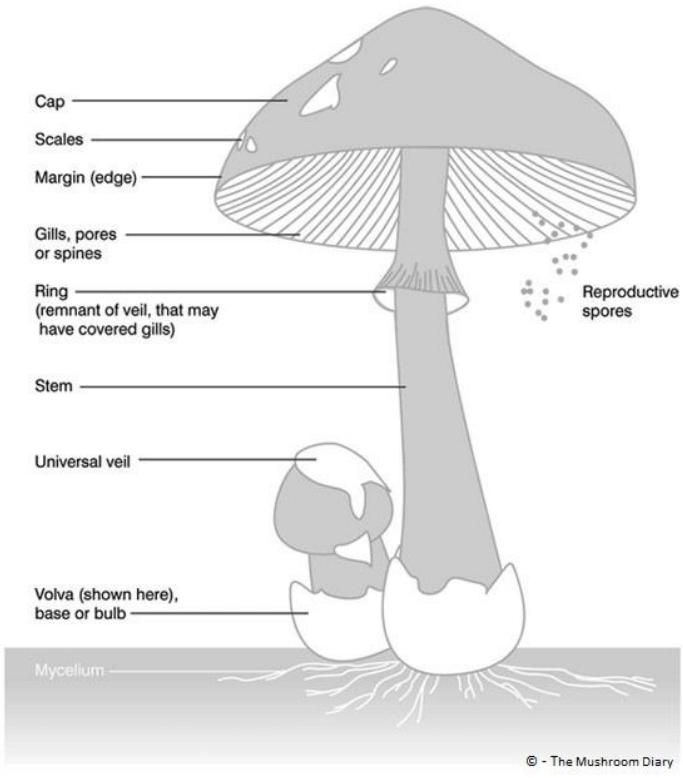
When you find a specimen, take photos from different angles, then, look at it closely – noting the shape and colour of the cap; what does it feel like – is it dry, brittle, wet, slimy, waxy, smooth or scaly? Always smell it as some have distinct odours. Look under the cap – does it have gills or pores?

Gills on the Left, Pores on the Right

If you press it slightly does it bruise or leak a milky liquid? What does the stem look like – is it straight or thicker at one end, is it smooth or scaly, does it have a ring? All of these features will help you narrow down the identification. Make notes on each one and if you take any home write on the bag where you found it, what was it growing on, the weather and the date. Taking samples home means you can look closer at them with a magnifying glass or a microscope. This also gives you the chance to do spore prints which is great fun. (more on this later)

Milky liquid oozing from the gills

**Anatomy**

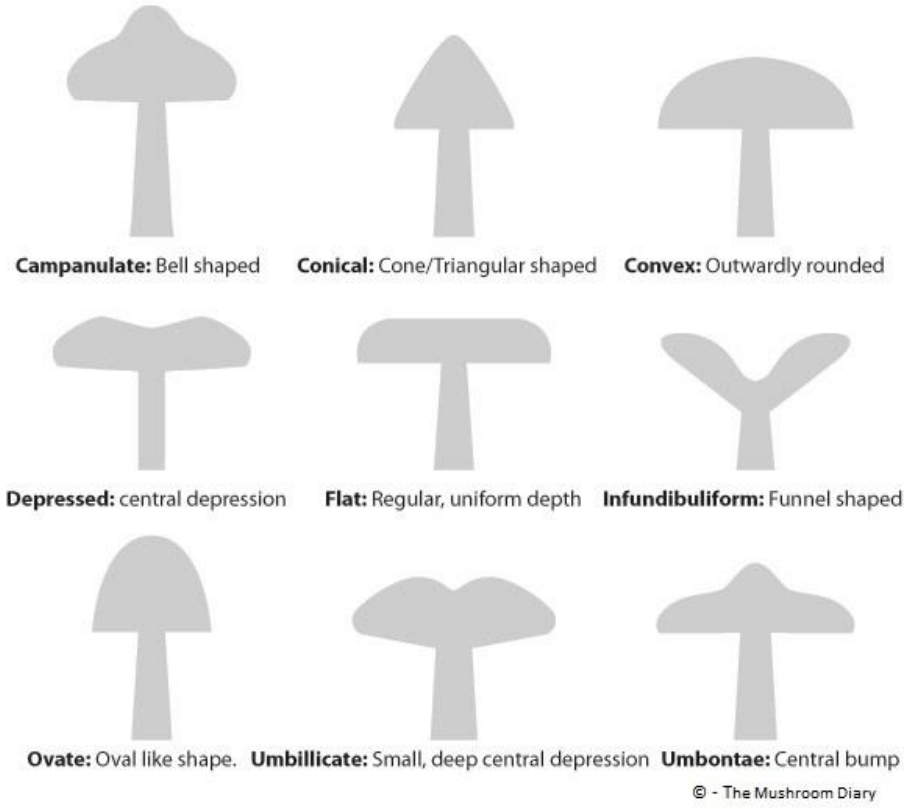



What to look for:

- What colour is it?
- Does it have a smell?
- What shape is the cap?
- Does the cap have scales on it?
- Does it feel wet, dry, slimy, waxy?
- Does it have gills or pores underneath?
- Does it bruise or leak when pressed?
- What shape is the stem?
- Does it have a ring on it?
- Does it come from a bulb at the base?

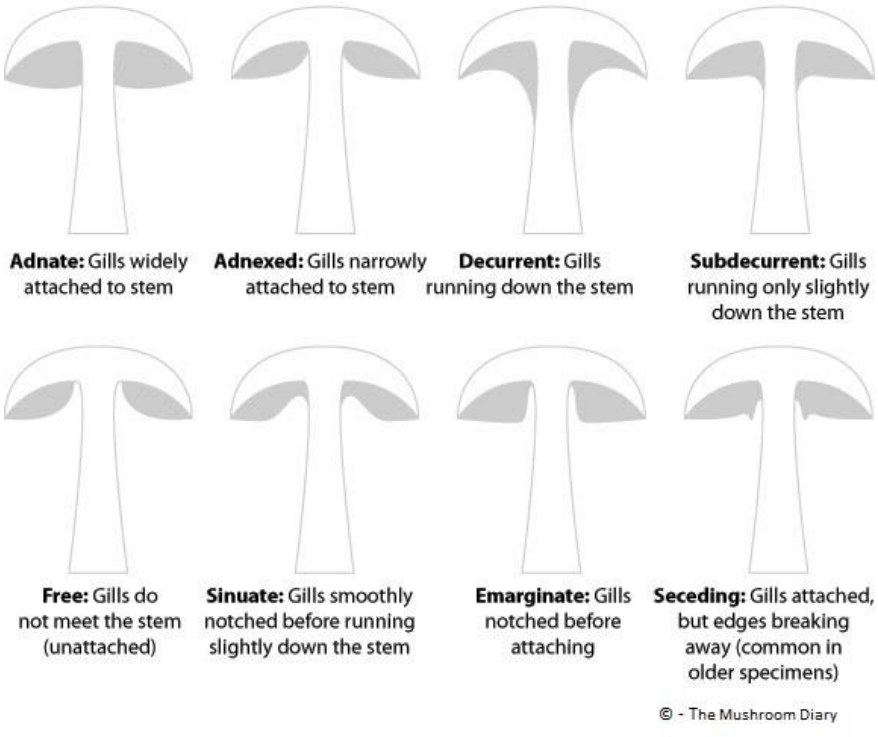
**Cap Shapes**

The shape of the cap is very important as this is the first thing you see. Here are the different shapes there are. Many species will start out as one shape and change as it gets older which is why it is easier to identify fresh specimens.




**Under the Cap**

Does it have pores (like a sponge) or gills (lots of tight pleats)? Are the gills attached to the cap? The way the gills are attached to the cap is an identification feature which varies in different species.




**The Stem**

Does it have a ring around it? Is it straight up and down? Is it bulbous or club shaped where it enters the soil? Does it look like it is growing from a sac (a volva) or does it have roots?

**Spore Prints**

Another feature to help identification which is not only informative but great fun to do. Spores are different colours and a good field guide will tell you what colour each species will produce. Once you think you know which species you have, place it on black or white card and leave it overnight. If you aren't sure what colour to use put two pieces of card together and place the mushroom over both colours. Next day carefully lift the mushroom to see the spore pattern.

**Books and Websites to help you**

GRASSLAND FUNGI – a field guide by Elsa Wood and Jon Dunkelman
COLLINS FUNGI GUIDE – by Stefan Buczacki, Chris Shields and Denys Ovenden
COLLINS COMPLETE GUIDE TO BRITISH MUSHROOMS AND TOADSTOOLS – by Paul Sterry
www.firstnature.com then search "fungi"
www.naturespot.org.uk then search "fungi"

**Photographic Guide to Some Common Species**

Fly Agaric *Amanita muscaria,* is probably the most recognised of the fungi species. It starts out as a red globe and opens up to a flat cap which gets paler with age. The white dots are easily washed off with rain. Found in leaf litter.

Yellow Stagshorn *Calocera viscosa*, orange/yellow in colour with branches at the tips. Found on deadwood, leaf litter or short grassland.

Golden Waxcap *Hygrocybe chlorophana*, appears in small groups and has bright yellow cap which feels wet and slimy to the touch. Found in short grassland.

Stump Puffball *Lycoperdon pyriforme,* grows in tight clumps around roots of dead trees. Starts as a very pale or white colour changing to pale brown. When gently squeezed the spores are released in a puff.

Turkey Tail *Trametese versicolor*, has a wide range of colours with the distinguisable rings of colour. It is thin and leathery to the touch and grows on deadwood.

Jelly Ear *Auricularia auricula-judae,* often seen like this one growing on the bark of a tree. Pinkish-brown in colour with a distinct jelly feel.

Birch Polypore – *Piptoporus betulinus*, a large bracket fungus very common on silver birch. Creamy/brown in colour and quite thick and fleshy. They grow singly but there are usually several on the same tree.

Common Earth Ball *Scleroderma citrinium*, found lying on soil or leaf litter often in groups. A very thick skin, creamy /yellow in colour with a black centre. Looks like a potato.

Candlesnuff *Xylaria hypoxylon*, small thin and upright and often looks like antlers. Grey and white in colour, found in clumps on fallen branches and rotten stumps of trees.

Shaggy Inkcap *Coprinus comatus*, found in meadows and open grassland. Beginning as a scaly egg shape and opening up to a flat grey/white cap revealing jet black gills.

Parasol *Macrolepiota procera ,* found singly in open grassland. The cap grows quite large up to 25cm in diameter and is pale with brown scales at the centre.

Stinkhorn *Phallus impudicus*, erupts from a white egg and grows into this phallus shaped fungus which is white with a grey/brown tip. It gives off a pungent rotten flesh smell which attracts flies. Found in woodlands.

Scarlet Elfcup *Sarcoscypha austriasa*, found in small groups on fallen twigs in moss or leaf litter. Irregular cup shaped with a smooth felt red skin, paler underneath.