

~~Phyllum~~Phylum AscomycotaOrder: Perizyales

Order perizyales is a large order that contains the species commonly called aspergillaceous ascomycetes as well as derived hypogeous forms that have evanescent asci with ascospores spread by mycophagy. Apothecia may lie open from very beginning, closed during early development to open at time of ascospore maturity, or never opening in hypogeous forms. This order has two important families i.e. Tuberaceae and Marasmiaceae.

1- Tuberaceae:-

The members of this family have hypogeous ascocarps. Species of genus Tuber ~~has~~ are the truffles. The ascocarps of truffles are hypogeous (in the ground). Truffles liberate their ascospores only when the ascocarp decays or, more likely, is broken by mycophagous animals. In the species of Tuber that have been investigated, the hymenium forms that later is enclosed completely by the developing ascocarp. In T. aestivum and T. rufum the asci are globose or broadly ovoid and form in a distinct hymenium.

Ascospores are spherical and spiny in most species with complex walls consisting of several layers. Often some of the ascospores in an ascus abort before maturity.

Truffles are mycorrhizal fungi that live in association with the roots of oak, pecan, beech, and other tree species, and mycorrhizal synthesis in the laboratory has been successful. Most of the truffles sold commercially are native to France and Italy and Tuber melanosporum is the prime of them all. With the help of trained pigs and dogs, which detect the odor of the truffles and dig them up, people gather them and offer them for sale in the markets. More recently with decreasing French harvests, other species notably from Asia, have been imported into France; however, a trained palate is said to distinguish the species easily. Arthropodes also eat on the truffles. Arthropodes swarm could be in the field. are there in the field. indication that truffles

The culture of truffles is a big business because certain species can sell for as much as \$500 a pound in some years. Truffle orchards have been developed in France, Spain and Italy. Tree seedlings are inoculated to establish truffles orchards.  
Family: Morchellaaceae:

Members of Morchellaceae are characterized by large, often stalked apothecia, mostly with a spongiform (Morchella) or bell-shaped (Verpa) pileus. Morchellaceae includes the morels and the bell morels. All Morchellaceae species produce fairly large apothecia.

### Genus: Morchella

The morels belong to the genus Morchella. The black morel (M. angusticeps), the hybrid or half free morel (M. semilibera), the delicious morel (M. deliciosa), and the common morel (M. esculenta) are some of the species that probably are distinct. All have apothecia with a thick stalk and a pitted or sometimes ridged pileus that resembles a sponge. The colour varies from a dirty greyish white to a dark brown, depending on the species and the age of specimen. The size varies from about 2cm less to over 14cm in height; M. esculenta is one of the species with large spots. The hymenial layer of a morel lines only the pits of the pileus, leaving the ridges between the tips bare of hymenium, a character that distinguishes the genus. The hymenidium consists of long, cylindrical operculate asci, each containing eight ascospores and of elongated paraphyses interspersed among the asci. The ascospores are large, colourless, ovoid, and at maturity multinucleate.

With the possible exception of the European truffles, morels are said to be the most delectable of all the fungi, and M. esculenta is supposed to be the best in North America. There are various stories of people who have "planted" morels by crumpling fresh or dried ascocarps, sclerotia, or mycelia on the ground and have harvested a crop the next season. It has been reported that in France, a rich crop was harvested as the result of crumpling dried morel ascocarps on ground previously "fertilized" with apple mash obtained from cider factories. Morels have been grown on culture, but only mycelia, sclerotia, and anamorph developed in agar. The anamorph of morel is constantinella.

Genus: Verpa

The genus verpa includes the bell morels. These fungi produce large apothecia with long, thick, white, somewhat flattened stalks bearing broad, bell-shaped caps of such relatively small size that they appear disproportionately small for the ~~caps~~ stalks. The cap of ascocarp is attached to the stalk in the center and the margin is free. The outer surface of the cap that bears the hymenium is either smooth or longitudinal ridged like the true morels, bell morels are edible but can cause disruption in muscular coordination.