

= *Helvella acetabulum* =

*Helvella acetabulum* is a species of fungus in the family *Helvellaceae* , order *Pezizales* . This relatively large cup @-@ shaped fungus is characterized by a tan fruit body with prominent branching ribs resembling a cabbage leaf ; for this reason it is commonly known as the cabbage leaf *Helvella* . Other colloquial names include the vinegar cup and the brown ribbed elfin cup . The fruit bodies reaches dimensions of 8 cm ( 3 @. @ 1 in ) by 4 cm ( 1 @. @ 6 in ) tall . It is found in Asia , Europe , and North America , where it grows in sandy soils , under both coniferous and deciduous trees . Although it may be considered edible , the fungus is not recommended for consumption unless cooked thoroughly , as it contains the toxin gyromitrin .

= = Taxonomy = =

The fungus was first named as *Peziza acetabulum* by Carl Linnaeus in his 1753 *Species Plantarum* . It was given its current name by French mycologist Lucien Quélet in 1874 . Other genera to which the species has been transferred include *Macroscyphus* by Samuel Frederick Gray in 1821 , *Octospora* by Joachim Christian Timm in 1788 , and *Paxina* by Otto Kuntze in 1891 ; the binomials resulting from these transfers are synonyms . Additional synonyms include *Acetabula sulcata* ( Pers . ) Fuckel , *Acetabula vulgaris* Fuckel , *Paxina sulcata* ( Pers . ) Kuntze , and *Peziza sulcata* Pers .

The specific epithet *acetabulum* means " little vinegar cup " , and was the Latin word for a small vessel used for storing vinegar ( see *acetabulum* ) . Common names include the " cabbage leaf *Helvella* " , the " vinegar cup " , the " ribbed @-@ stalk cup " , and the " brown ribbed elfin cup " .

= = Description = =

*Helvella acetabulum* has a deeply cup @-@ shaped fruit body ( technically an apothecium ) that is up to 8 cm ( 3 @. @ 1 in ) in diameter , and 4 cm ( 1 @. @ 6 in ) deep . The inner spore @-@ bearing surface , the hymenium , is brown , and may be smooth or slightly wavy ; the exterior surface is cream @-@ colored , and is covered with minute " hairs " . The ribs start from the cream @-@ colored stem and extend almost to the edge of the fruit body . The stem is typically 1 to 6 cm ( 0 @. @ 4 to 2 @. @ 4 in ) tall by 1 to 3 cm ( 0 @. @ 4 to 1 @. @ 2 in ) thick . The odor and taste of this mushroom are not distinctive .

The spores are smooth , elliptical , translucent ( hyaline ) , and contain a single central oil droplet ; they have dimensions of 18 ? 20 by 12 ? 14  $\mu\text{m}$  . The spore @-@ bearing cells , the asci , are 350 ? 400 by 15 ? 20  $\mu\text{m}$  , are operculate ? meaning they have an apical " lid " that releases the spores . The tips of the asci are inamyloid , so they do not adsorb iodine when stained with Melzer 's reagent . The paraphyses are club @-@ shaped , and have a pale brown color , with tips that are up to 10  $\mu\text{m}$  thick .

Although the edibility of the fruit bodies is often listed as " unknown " , consumption of this fungus is not recommended as similar species in the family *Helvellaceae* contain the toxin gyromitrin . Gyromitrin is heat sensitive , and is broken down by cooking .

= = = Similar species = = =

*Helvella queletii* has a roughly similar form and appearance , but the ribbing in that species does not extend up the margin as does *H. acetabulum* . *H. griseoalba* has ribs that extend halfway up the sides of the fruit body , but the color of the cup is pale to dark gray rather than cream . The fruit bodies also resemble those of *H. costifera* , but the latter species is distinguished by its grayish to grayish @-@ brown hymenium ; like *H. acetabulum* , it has ribs that extend to most of the outside of the fruit body . There are sometimes intermediate forms between the two species , making them difficult to distinguish . *H. robusta* is also similar to *H. acetabulum* , but has a lighter @-@ colored hymenium , a robust stem , and the margin of the fruit body is often bent over the stem at maturity . In contrast , *H. acetabulum* never has the edge of the fruit body bent over the stem , and the stem is

" indistinct or prominent , but never robust " .

= = Distribution and habitat = =

This fungus is widespread in North America and Europe . In North America , the distribution extends north to Alberta , Canada . In Mexico , it has been collected from State of Mexico , Guanajuato , Guerrero , and Tlaxcala . It is also found in Israel , Jordan , Turkey , Iran China ( Xinjiang ) and Japan .

The fruit bodies grows solitary , scattered , or clustered together on soil in both coniferous and deciduous woods , typically in spring and summer . A preference for growing in association with coast live oak ( *Quercus agrifolia* ) has been noted for Californian populations .