

= *Amanita daucipes* =

*Amanita daucipes* is a species of fungus in the Amanitaceae family of the Agaricales order of mushrooms . Found exclusively in North America , the mushroom may be recognized in the field by the medium to large white caps with pale orange tints , and the dense covering of pale orange or reddish @-@ brown powdery conical warts on the cap surface . The mushroom also has a characteristic large bulb at the base of its stem with a blunt short rooting base , whose shape is suggestive of the common names carrot @-@ footed *Lepidella* , carrot @-@ foot *Amanita* , or turnip @-@ foot *Amanita* . The mushroom has a strong odor that has been described variously as " sweet and nauseous " , or compared to an old ham bone , or soap . Edibility is unknown for the species , but consumption is generally not recommended due its position in the *Amanita* subgroup *Lepidella* , which contains some poisonous members .

= = Taxonomy = =

*Amanita daucipes* was first described in 1856 by the mycologists Miles Joseph Berkeley and Camille Montagne , who named it *Agaricus daucipes* . It was later renamed to *Amanitopsis daucipes* by Pier Andrea Saccardo , in 1887 . In 1899 , American mycologist Curtis Gates Lloyd transferred the species to the genus *Amanita* . It is in the section *Lepidella* of the genus *Amanita* , in the subgenus *Lepidella* , a grouping of related *Amanita* mushrooms characterized by their amyloid spores . Other North American species in this subgenus include *A. abrupta* , *A. atkinsoniana* , *A. chlorinosma* , *A. cokeri* , *A. mutabilis* , *A. onusta* , *A. pelioma* , *A. polypyraxis* , *A. ravenelii* and *A. rhopalopus* . Its common names include the " carrot @-@ foot *Amanita* " , the " turnip @-@ foot *Amanita* " , or the " carrot @-@ footed *Lepidella* " . The specific epithet *daucipes* means " carrot foot " .

= = Description = =

The caps of the fruit bodies initially have a convex shape before flattening out in maturity , and measure 6 to 25 cm ( 2 @. 4 to 9 @. 8 in ) in diameter . The cap surface is dry to shiny , and white with a pale orange hue . It is densely covered with white to pale orange or reddish brown conical warts . The warts , remnants of the universal veil , are randomly distributed on the cap surface and become fluffier and cotton @-@ like ( flocculent ) near the edge ( or margin ) of the cap . Drier specimens may have the cap surface completely cracked around the bases of the individual warts .

The conical warts are detersile , meaning they may be easily removed from the cap surface without leaving a residue or a scar . The margin of the cap does not have striations , and like other *Lepidella* members , may have irregular veil remnants hanging from it . The gills are free , crowded closely together , moderately narrow , and white to yellowish white in color . The short gills that do not extend the full distance from the stem to the cap edge ( known as lamellulae ) are rounded to attenuate ( gradually narrowing ) , and of varying lengths .

The stem is 7 @. 5 to 20 cm ( 3 @. 0 to 7 @. 9 in ) long , 0 @. 8 to 2 @. 5 cm ( 0 @. 3 to 1 @. 0 in ) thick , and is attached to the center of the cap . It tapers slightly towards the apex , and is solid , dry , white or sometimes with a pale orange tint , and covered with tufts of soft woolly hairs . If handled , the stem will slowly bruise and discolor to approximately the same color as the cap . The basal bulb is large , reaching up to 15 by 12 cm ( 5 @. 9 by 4 @. 7 in ) , and is broadly spindle- to turnip @-@ shaped . The bulb has a circular ridge on its upper part where the universal veil was previously attached , and the bulb may have longitudinal splits . It is covered with pinkish to reddish veil remains . The partial veil forms an ephemeral ring on the upper part of the stem . It is white to pale yellow , and usually falls off as the cap expands ; fragments of the ring may often be found lying on the ground near the base of the stem . The universal veil remnants , when present , are similar to that on the cap . The flesh is firm and white . Fruit bodies have an odor that is strong and unpleasant , described as " sweet and nauseous " . The odor has also been compared to

that of " an old ham bone or soap " or " decaying protein " , especially older specimens .

== Microscopic characteristics ==

Viewed in deposit , such as with a spore print , the spores of *A. daucipes* are white , cream , or yellowish in color . Viewed with a microscope , they have an ellipsoid to elongate shape ( sometimes kidney @-@ shape , or reniform ) , and dimensions of 8 ? 11 by 5 ? 7  $\mu\text{m}$  . They are translucent ( hyaline ) , with thin walls , and are amyloid , meaning that they absorb iodine when stained Melzer 's reagent . The basidia ( the spore @-@ bearing cells ) are 30 ? 50 by 7 ? 11  $\mu\text{m}$  , club @-@ shaped , and 4 @-@ spored , with clamps at their bases . The cheilocystidia are abundant , small , roughly spherical to club @-@ shaped cells , with dimensions of 15 ? 40 by 10 ? 28  $\mu\text{m}$  . The cap cuticle is between 75 and 180  $\mu\text{m}$  thick , and consists of a dense layer of thin @-@ walled , interwoven , and slightly gelatinized hyphae that are 2 ? 5  $\mu\text{m}$  in diameter . Clamp connections are present in the hyphae of this species .

== Edibility ==

The edibility of *A. daucipes* is unknown , but the mushroom is not recommended for consumption because the *Lepidella* section of *Amanita* also contains several poisonous species .

== Similar species ==

*Amanita daucipes* is superficially similar to another related North American species , the chlorine *Lepidella* ( *A. chlorinosma* ) , but may be distinguished from the latter by its color and the large basal bulb . Further , *A. daucipes* has " tougher , more distinct volval scales that are tinged with orange @-@ yellow to orange @-@ brown or light reddish @-@ brown . "

== Habitat and distribution ==

*Amanita daucipes* is a mycorrhizal species , and its fruit bodies may be found growing solitary or scattered on the ground in mixed coniferous and deciduous forests ( especially those dominated by oak trees ) in Maryland , North Carolina , New Jersey , Ohio , Pennsylvania , Tennessee , Virginia , West Virginia , Kentucky , and Texas ; other associated tree species include hickory ( genus *Carya* ) and birch ( *Betula* ) . A predilection for disturbed soil , such as roadsides , has been noted . *Amanita* authority Cornelis Bas , writing in his extensive 1969 monograph on the genus , claimed *A. daucipes* to be a rare species ; subsequent investigations have shown it to be common in oak forests in the eastern United States . The southern end of its distribution extends to Sonora , Mexico .