

= *Amanita ceciliae* =

*Amanita ceciliae* , commonly called snakeskin grisette and strangulated amanita , is a basidiomycete fungus in the genus *Amanita* . First described in 1854 by Miles Joseph Berkeley and Christopher Edmund Broome , it was given its current name by Cornelis Bas in 1984 . It is characterized by bearing a large fruit body with a brown cap 5 ? 12 cm ( 2 @. @ 0 ? 4 @. @ 7 in ) across . The cap has charcoal @-@ grey patches , which are easily removable . The stipe is 7 ? 18 cm ( 2 @. @ 8 ? 7 @. @ 1 in ) long , white in colour , and there is no ring on it . It is slightly tapered to the top , and has irregular cottony bands girdling the base . The universal veil is grey . Spores are white , spherical in shape , non @-@ amyloid , and measure 10 @. @ 2 ? 11 @. @ 7 micrometres . The mushrooms are considered edible , but field guides typically advise caution in selecting them for consumption , due to risks of confusion with similar toxic species . *A. ceciliae* is found in woods throughout Europe and North America , where it fruits during summer and autumn .

= Taxonomy and etymology =

*Amanita ceciliae* was first described by Miles Joseph Berkeley , an English cryptogamist and clergyman , and Christopher Edmund Broome , a British mycologist , in 1854 . It is placed in the genus *Amanita* and section *Vaginatae* . Section *Vaginatae* consists of mushrooms with special characteristics ? such as the absence of a ring , and very few clamp connections at the bases of the basidia .

The name *Amanita inaurata* , given by Swiss mycologist Louis Secretan in 1833 , has also been used for this species . In 1978 , the name was declared nomenclaturally incorrect according to the rules of International Code of Botanical Nomenclature . Other synonyms are *Agaricus ceciliae* , *Amanitopsis inaurata* and *Amanitopsis ceciliae* . The present name , *Amanita ceciliae* , was given by Cornelis Bas , a Dutch mycologist , in 1984 .

The species is commonly called " snakeskin grisette " . Another common name is " strangulated amanita " , referring to the tightly clasping volva . It is also called *Cecilia* 's ringless amanita after Cecilia Berkeley , the wife of M. J. Berkeley . The name was meant " to record the services which have been rendered to Mycology by many excellent illustrations and in other ways " .

= Description =

*Amanita ceciliae* is characterized by bearing a large fruit body with a brown cap 5 ? 12 cm ( 2 @. @ 0 ? 4 @. @ 7 in ) across . The cap has charcoal @-@ grey patches , which are easily removable . The stipe is 7 ? 18 cm ( 2 @. @ 8 ? 7 @. @ 1 in ) long , white in colour , and there is no ring on it . It is slightly tapered to the top , and has irregular cottony bands girdling the base .

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The cap is 5 ? 12 cm ( 2 @. @ 0 ? 4 @. @ 7 in ) across , shape ranging from convex to flat . It is upturned , and has a deep @-@ coloured margin . There is a low umbo . It is grey to a brownish black in colour , darkest in the center and paler towards the margin . Generally smooth , the cap surface is slightly sticky when moist . The cap surface is characterized by having loose , fleecy , charcoal @-@ grey patches of volval remnants scattered across it . The patches are easily removed . The margin is strongly striated . The cap colour may vary , and pale forms are known to exist , for example , as in the types *A. c. f. decolora* and *A. c. var. pallida* . *A. c. var. royeri* , first described by mycologist L. Maire in 2008 and occurring in France , is a cinder black @-@ capped variation .

Gills are free and closely spaced , and white in colour . They can be thick , and are often forked . The stem is 7 ? 18 cm ( 2 @. @ 8 ? 7 @. @ 1 in ) long , and 120 ? 200 mm ( 4 @. @ 7 ? 7 @. @ 9 in ) x 20 ? 40 mm ( 0 @. @ 79 ? 1 @. @ 57 in ) thick . It is lightly stuffed ( filled with a cottony tissue ) and then hollow , and there is a slight tapering to the top . It is white in colour , with flat grey hairs , often in a zig @-@ zag pattern . It does not bear a ring and has fragile , cottony , brownish or charcoal @-@ coloured oblique girdles of volval remnants around the stem base and lower stem .

The volva is white to grey , powdery and delicate . The flesh is white and does not change colour when cut . Although it lacks any distinctive odor , it tastes sweet .

Spores are white in colour , spherical and are not amyloid . They measure 10 @. @ 2 ? 11 @. @ 7  $\mu\text{m}$  . A few large @-@ sized spores are commonly found in a mount of gill tissue . Clamps are not found at bases of basidia .

= = = Lookalikes = = =

*Amanita sinicoflava* ( occurring in North America ) looks quite similar , but it has a sack @-@ like volva , unlike *A. ceciliae* . *A. antillana* , of the Antilles islands , is somewhat the same , but it has ellipsoid spores unlike the spherical ones of *A. ceciliae* . *A. ceciliae* is often used as a misnomer for *A. borealisorora* , which largely occurs in North America . *A. borealisorora* is a provisional name , and the species has not yet been validly published . The spores of *A. ceciliae* highly resemble those of *A. cinctipes* ( mainly found in Singapore ) , though the former has larger spores . The discolouration in the volva of *A. colombiana* ( from Colombia , as its name states ) probably shows a relationship between the mushroom and *A. ceciliae* . *A. sorocula* is another lookalike . This Colombian and Mesoamerican species is often mistaken for *A. ceciliae* , as both mushrooms have a volva with a weak structure and greying gills . The notable difference is the strong yellow colour of the cap in immature *A. ceciliae* mushrooms . *A. sorocula* is not yet validly published , and currently is a newly accepted name . The Chinese species *A. liquii* is similar but the yellow @-@ brown , red @-@ brown or green @-@ brown coloured cap of *A. ceciliae* are much different from the brown @-@ black cap of *A. liquii* . Also , the volval remnants of *A. ceciliae* converge at the base to form a ring @-@ like zone , unlike *A. liquii* . Apart from this , the cellular pigments in the sterile strip around the gills and volval remnants are much darker in colour compared to *A. ceciliae* .

= = = Edibility = = =

*Amanita ceciliae* is considered an edible mushroom and used as food , although many field guides recommend to avoid eating it . A study of 16 edible mushrooms was done to learn about their chemical compositions and antioxidant activities . Among these species , *A. ceciliae* and *Pleurotus ostreatus* were the two mushrooms that showed most powerful radical scavenging activities .

= = Ecology and habitat = =

### Europe

In Europe , *Amanita ceciliae* is widespread everywhere , though infrequently encountered . It often inhabits deciduous forests with hornbeam ( *Carpinus* ) , oak ( *Quercus* ) , beech ( *Fagus* ) and birch ( *Betula* ) , but it can also rarely occur with conifers : pine ( *Pinus* ) , fir ( *Abies* ) , spruce ( *Picea* ) and cedar ( *Cedrus* ) . It has a preference for neutral to calcareous soils .

### North America

In North America , it is found mainly in areas east of the Mississippi River , but similar mushrooms also occur in the Pacific Northwest , the Southwest , and Texas . Its range also stretches south into Mexico . They are ecologically mycorrhizal , and habitats include hardwood forests and coniferous forests . The mushroom grows alone , scattered , or in groups during summer and autumn . It is primarily eastern in distribution but also reported in the Pacific Northwest , the Southwest , and Texas ( with an apparent association with pecan trees ) .

= = = Introduced species = = =

Apart from its native area , *A. ceciliae* has also been reported from Asia . These regions include Japan , Azad Kashmir and Iran . There is speculation that North American collections could possibly be an undescribed species differing from the European *A. ceciliae* .