

CLEISTOCYBE VERNALIS

A New Genus & Species Of Agaricales

Genus: *Cleistocybe*

Etymology: *Cleistos-* (Greek: closed, shut) and *-cybe* (Greek: head) in reference to the veiled basidiomata.

Major Morphological Characters Of The Genus

- Clitocyboid habit.
- Terrestrial under mixed conifers or conifers mixed with Betulaceae.
- Color range of basidiomata brick red to pale reddish-brown, reddish-gray, pinkish cinnamon to vinaceous buff.
- Farinaceous odor and taste.
- Decurrent lamellae that become grey in age.
- Interwoven lamella trama, initially with divergent elements.
- White spore deposit.
- Distinct or ephemeral fibrillose to submembranous partial veil.
- Interwoven pileipellis with pigmented and incrustated hyphae (at least one species [*C. vernalis*] with greenish reaction on pileipellis with KOH).
- Smooth inamyloid spores that are inequilateral in profile view.

The Genus Is Composed Of Two Species*

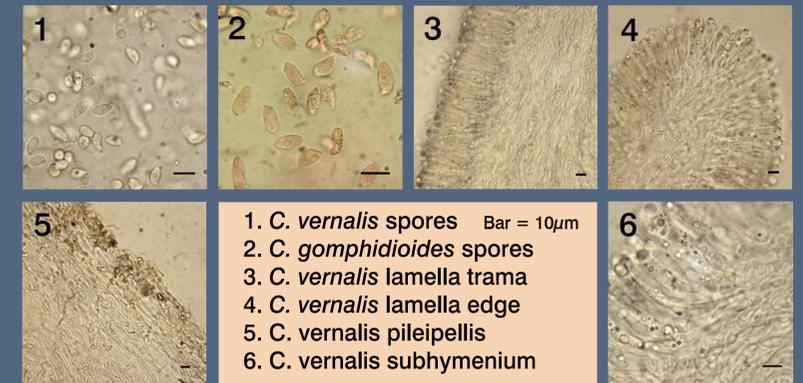
Cleistocybe vernalis Ammirati, Parker et Matheny, sp. nov.

(Type) From a single population near Metaline Falls Washington. Occurs in spring (April, May); pileus dry, non-gelatinous, sometimes cracked-areolate in dry conditions, having a greenish reaction on the cuticle with KOH when fresh. Whole basidiome a pale pinkish-grey-brown; odor strongly farinaceous; stipe with a submembranous annulus, fibrillose above, course patches of veil tissue below; in mixed conifer forests of *Abies*, *Betula*, *Larix*, *Pseudotsuga*, and *Thuja*. Terrestrial, but ecology is unknown.

Cleistocybe gomphidioides (A. H. Smith) Ammirati, Parker et Matheny, comb. nov.

Formerly *Clitocybe gomphidioides* A. H. Smith, and *Clitocybe subvelosa* A. H. Smith, D. E. Stuntz which are determined to be conspecific based on morphological and genetic comparisons. Occurs in fall (Aug, Sept, Oct) with conifers (*Thuja*, *Tsuga*), mixed conifers (*Alnus*), or under *Oplopanax horridus*; pileus viscid, sub-gelatinous to gelatinous; odor and taste farinaceous. Known from seven collections from Washington, Idaho, and Colorado.

*See *Cleistocybe*, a new genus of Agaricales, Ammirati, Parker, et Matheny, Mycoscience: in press (2007) for complete descriptions etc. of the genus and its two species.



Cleistocybe: A Member Of The *Catathelasma* Clade

Other Constituent Genera Of The Clade:

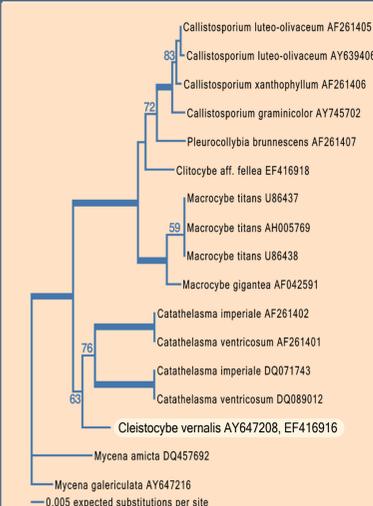
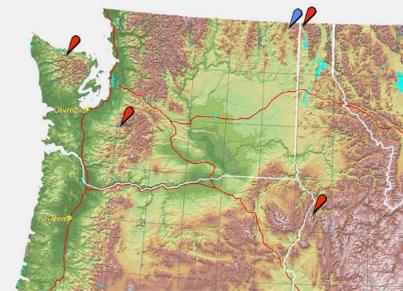
1. *Callistosporium* - Smallish Collybioid species with olivaceous to yellowish-brown basidiomata, with spores and some hyphae that redden in KOH, and lacking a veil. Saprotrophic.
2. *Catathelasma* - Basidiomata Clitocyboid, large, firm, with a double annulus and a tapered root-like base. Ectomycorrhizal with conifers.
3. *Pleurocollybia* - Basidiomata Pleurotoid, north temperate to south temperate, saprotrophic.
4. *Macrocybe* - Basidiomata Tricholomatoid, very large, without a veil, tropical, saprotrophic.

Common characters of the clade:

- White spore deposit
- Absence of cheilocystidia
- Taste farinaceous or bitter, mild in some *Pleurocollybia* sp.
- Smooth, hyaline spores
- Cutis-type pileipellis

Sites Collected In The Pacific Northwest

- *C. vernalis*
- *C. gomphidioides*



25S rRNA gene phylogeny of members of the *Catathelasma* clade based on Bayesian and MP bootstrap analyses. The 50% majority rule consensus tree of the Bayesian analysis is shown, including branch lengths. Branches that are significantly supported by PP and BP values greater than 0.95 and 70% respectively, are indicated with thickened lines. BP values greater than 50% are shown for branches that receive non-significant PP values. The *Mycenaceae* is used to root the tree.