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CLASSIFICATION OF THE ARTILLERY FUNGUS, *Sphaerobolus* spp.

The taxonomy or "classification" of the artillery fungus, *Sphaerobolus* spp., is difficult to define using common terms. Is it a mold? Is it a mildew? Is it a fungus? The answer really depends on whether you ask a scientist or a nonexpert because of the differences in the terms that are used. Many house insurance policies have different types of wording for clauses that involve damage associated with fungi. Examples include dry rot, mold, and mildew. Because of the intermixing of scientific and non-scientific terms, it often comes down to a matter of interpretation when determining what is and what is not covered by a homeowner's policy.

As follows are some working definitions for several of the terms commonly used to refer to these types of organisms:

- **Fungus-** This term can be used for all members of the Kingdom Fungi. Fungi are small, generally microscopic, eukaryotic, usually filamentous, branched, spore-bearing organisms that lack chlorophyll and have cell walls that contain chitin, cellulose, or both. They are heterotrophic and require a preformed organic source (i.e., they are not able to make their own food). When used as a common term, "fungus" can be used to include a mold, mildew, rust, smut, mushroom, or yeast.

Other common terms, specifically mold and mildew, are often used interchangeably. They can have scientific, non-scientific, or generic definitions. As a consequence, they can be used to describe a variety of very different types of organisms and can be ambiguous.

- **Mold-** The common use of this term refers to a type of organism that usually produces conspicuous, profuse, or woolly, superficial growth on a variety of substrates. Molds are typically found growing on damp or decaying matter and on the surfaces of plant tissues. The scientific use of this term refers to fungi that grow superficially on their substrates and belong to the order Mucorales (Zygomycetes), mainly those in the genus *Mucor* and *Rhizopus.*[1]

- **Mildew-** The common use of this term refers to a type of organism with superficial, threadlike growth that is dark-brown to black in color and gives affected surfaces a dirty appearance.

> The scientific use of this term refers to fungi with superficial growth produced on organic matter or living plants. The color of the fungal growth varies with genus. For example, members of the Erysiphales produce white colonies, Peronosporales are tan to purplish-brown, and Meliolales are black.[1]

***Sphaerobolus* spp. is a fungus.** The following is the taxonomic breakdown for this particular fungus based on molecular and morphological data[2, 3]:

Domain: Eukarya
Kingdom: Fungi
Phylum: Basidiomycota
Class: Basidiomycetes
Order: Phallales
Family: Geastraceae
Genus: *Sphaerobolus*

Given this taxonomic scheme and the working definitions listed above, *Sphaerobolus* spp. is a fungus that would not be categorized as a "mold" or "mildew" since it is in the order Phallales rather than the order Mucorales or Erysiphales, Peronosporales or Meliolales, respectively.

[1] *Illustrated Dictionary of Mycology.* 2000. Ulloa, M. and Hanlin, R. APS Press, St. Paul, MN, 448p.

[2] Kirk, P.M., Cannon, P.F., David, J.C. and Stalpers, J.A.. 2001. Ainsworth and Bisby's Dictionary of the Fungi, 9th Edition. CAB International, Wallingford, UK, 655p.

[3] Geml, J, Davis, D. D. and Geiser, D. M. 2005. Systematics of the genus *Sphaerobolus* based on molecular and morphological data, with the description of *Sphaerobolus ingoldii* sp. nov. Mycologia 97:680-694.

This fact sheet is intended as a companion to the fact sheet *Sphaerobolus* spp.--The Artillery Fungus, by S. M. Douglas (December 2007, revised).

March 2008 (revised)