# THE JARGON EXPLAINED AND ILLUSTRATED

'Here are a few of the unpleasant'st words that ever blotted paper! (Merchant of Venice, III, ii, 160)

This glossary is aimed at the beginner. It makes no pretence to completeness but should help to understand many of the words used in describing fungi. The glossary often included in the books and keys should also be consulted. For a fuller treatment refer to Ainsworth & Bisby's Dictionary of the Fungi (Edit. 7, 1983).

The following terms apply mostly to the 'Agarics' i.e. the fungi of the orders Agaricales, Boletales and Russulales. The terms used in the description of the Aphyllophorales and the larger Ascomycetes will appear in a later part.

In this first part the more general terms will be defined and succeeding parts will cover the more specialised terminology.

#### THE WHOLE FRUITBODY

Fruitbody: that part of the fungus which is above the substrate (Fig. 1).

Carpophore: = fruitbody.

## PARTS OF THE FRUITBODY ABOVE, OR PARTLY IMMERSED IN, THE SUBSTRATE

Annulus: = Ring.

Apex: the very top of the stem (Fig. 1a). Base: the very bottom of the stem (Fig. 1b).

**Bulb:** a significant swelling of the base of the stem

Cap (= Pileus): the hymenium-bearing part (Fig. 1d). Cortex: more or less thick outer layer where there is differentiation from an inner layer (used mainly in relation to the stem) (Fig. 1e).

Cuticle (also Cutis): outer layer of cap and stem (Fig. 1f) consisting of compressed tissue elements (hyphae).

Disc: the central part of the cap (Fig. 1g).

Flesh (= Trama): the inner tissues of the fruitbody

Flesh (= Trama): the inner tissues of the fruitbody (Fig. 1h).

Gill (= Iamella): spore-bearing, vertical plate on the underside of the cap (Fig. 1i, 2a), consisting of the outer hymenium and the inner trama.

Hymenium: the spore-bearing layer of the gills, tubes or spines, i.e. the layer of basidia and other cells.

Hymenophore: = the whole fruit-body, or confusingly, only the sum total of the gills, tubes or teeth.

Lamella (plural: lamellae): = gill.

Lamellule: a gill which is shorter than the normal gill (Fig. 1i, 2b).

Lamellula (plural: lamellulae): = lamellule.

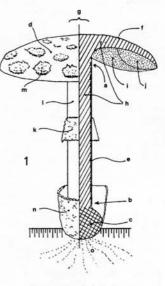


Fig. 1. The fruitbody.

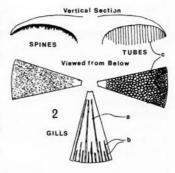


Fig. 2. Spore-bearing structures.

Lumen: the central cavity of, say, a hollow stem (Fig. 3a). Peronate: used to describe a stem which is sheathed with a sock from the base to the ring (Fig. 3b).

Pileus: = cap.

Pore: the mouth of a tube (Fig. 2c).

Ring ( = Annulus): remnant on the stipe of the partial veil (Fig. 1k).

Sessile: without a stem.

Spines: spore-bearing structures, +/- sharp tooth-like (Fig. 2).

**Stem** (= stipe): the part supporting the cap (Fig. 11).

Stipe: stem, hence stipitate, having a stem.

Trama: = flesh.

Tubes: spore-bearing structures in the shape of minute vertical pipes, of cross-section cylindrical or not (as seen

in the Boletes and Polypores) (Fig. 2).

Veil, partial: layer of tissue which joins the cap margin to the stem (Fig. 4a) and of which remnants may remain on the stem as a ring or hanging from the cap margin. Veil, universal: layer of tissue covering the whole fruitbody in early stages of growth (Fig. 4b), remains of which may be seen as scales on the cap (Fig. 1m) and the volva at the base of the stem (Fig. 1n).

Volva: remains of the universal veil, taking the form of a more or less well-defined cup (Fig. 1n), of rings or just soft lumps at the base of the stem.

### PARTS BURIED IN THE SUBSTRATE

Mycelium: the assemblage of fine filaments (hyphae, see next part) running through the substrate, being the vegetative part of the fungus (Fig. 1o).

Rhizomorph: an aggregation of mycelial filaments into a root-like structure, e.g. Tricholomopsis platyphylla. Sclerotium: a firm, frequently rounded, mass of mycelial

filaments, from which some fungi arise.

### RELATIONSHIPS WITH THE SUBSTRATE

Coprophilous: growing on dung. Humicolous: growing on humus. Lignicolous: growing on wood. Muscicolous: growing on moss.

Saprophytic: growing on a part of a dead organism. Substrate: the substance, live or dead, from which the fungus is drawing its food.

Terricolous: growing on soil.

Parasitic: growing on a part of a live organism.

Symbiotic: growing in association with another organism to their mutual benefit, e.g. in Lichens.

Mycorrhiza: a symbiotic association of a fungus with the roots of a plant.

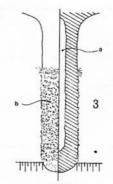


Fig. 3. A hollow, peronate stem.

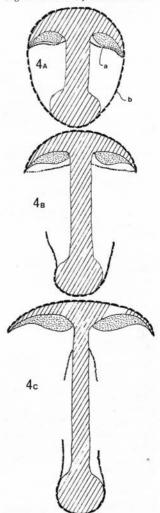


Fig. 4. Schema of universal and partial veils and their fates.



# THE JARGON EXPLAINED AND ILLUSTRATED — 2

#### THE CAP SHAPE

Applanate: flattened, e.g. mature Field Mushroom (Fig. 4a).

Campanulate: bell-shaped (Fig. 4d). Conical: cone-shaped (Fig. 4e).

Convex: equally rounded, e.g. young Field Mushroom (Fig. 4b).

Cyathiform: cup-shaped, with the top wider than the base (approx. = infundibuliform)

Depressed: with sunken centre (Fig. 4h).

Hemispherical: = globose (Fig. 4c).

Gibbous: with a large central hump (Fig. 4j)
(cf umbonate).

Globose: globe-like, e.g. very young Field Mushroom (Fig 4c).

Infundibuliform: funnel-shaped (Fig. 4g). Papillate: with a central pimple (Fig. 4l).

Plane: = applanate. Sunken: = depressed.

Umbilicate: with a central small depression (Fig. 4i).

Umbonate: with a central hump (Fig. 4k).

**SURFACE** (Macroscopic characters) (NB: Some of these terms apply also to the stem; the converse obtains)

Adpressed (also appressed): closely flattened down (mainly of fibrils).

Areolate: divided into small areas by cracks or crevices, e.g. Russula virescens.

Dry: dry to the touch (cf viscid, glutinous).
Expallent: becoming paler on drying (cf hygrophanous).

Farinose (= mealy): covered with very small mealy particles (cf pruinose, flocculose, floccose).

Fibril: a very small fibre.

**Fibrillose:** bearing radially (longitudinally, of the stipe) aligned superficial fibrils (Fig. 5a).

Floccose: with cottony particles (flocci).
Flocculose: with small cottony particles.
Furfuraceous (= scurfy): with bran-like scales.

Glabrous: not scaly, scurfy, fibrillose, etc., but not necessarily smooth.

Glutinous: sticky to the touch from a layer of viscous matter.

**Granular:** of a surface with a minutely pimply appearance.

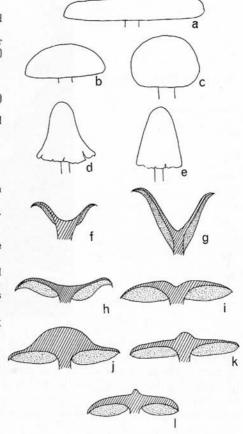


Fig. 4. Cap shape.

Hygrophanous: with a water-soaked appearance when wet but changing appearance and colour on drying.

Innate: Imbedded, inseparable.

Innately fibrillose: with imbedded fibrils. Mealy: = farinose.

Micaceous: of a surface from which minute bright points of light are reflected.

Pellicle: viscid cuticle which is easily peeled off.

Pellucid: transparent.

Pruinose: covered with a very fine powder. Pubescent: with short, soft fine hairs. Punctate: marked with small dots.

Reticulate: with a net-like ornamentation. Rimose: radially cracked, thus showing the underlying pale flesh (Fig. 5b).

Rugose: coarsely wrinkled. Rugulose: finely wrinkled. Scaly: = squamose.

Scurfy: = furfuraceous.

Smooth: without any form of roughness.

Squamose: bearing scales.

Squamulose: bearing small scales. Squarrose: bearing erect scales.

Striae: narrow lines or streaks. Striate: with striae.

Tomentose: with short densely matted fibrils.

Velvety: = velutinate.

Velutinate: densely covered with short hairs, velvet-like.

Viscid: slippery-wet to the touch but without the thicker layer of the glutinous surface. Zonate: with concentric bands of different colour or texture.

CAP MARGIN (Macroscopic characters)

Appendiculate: irregularly fringed with tooth-like remains of veil (Fig. 6a). Costate: with raised ribs (cf sulcate, the

opposite).

Crenate: scalloped or round-toothed (Fig. 6b).

Crenulate: as crenate but with smaller teeth. Dentate: having teeth which are +/- torn and acute (Fig. 6c).

Denticulate: as dentate but with smaller teeth.

Fimbriate: fringed with hairs (Fig. 6d). Inflexed: turned downwards (Fig. 6e).

Involute: rolled inwards (Fig. 6g). Pellucid-striate: appearing striate because

the gill pattern can be seen through the transparent cuticle and flesh.

Plicate: folded into pleats (Fig 6i). Reflexed: turned upwards (Fig 6f).

Revolute: rolled upwards (Fig 6h). Split: with a V-shaped notch, as seen in rimose Inocybe species (Fig 5b). Sulcus (Plur: Sulci): a furrow or groove.

Sulcate: distinctly grooved (Fig. 5j). Tuberculate: having small rounded warts on the sulci.





Fig. 5. Cap surface.

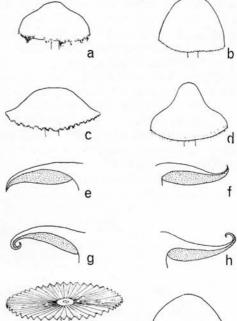


Fig. 6. Cap margin.



THE JARGON EXPLAINED AND ILLUSTRATED — 3

THE STEM (STIPE) — Macroscopic characters (some terms also listed under Cap

Annulate: bearing a ring (Fig. 1k).

Blunt: of the base, rounded (Fig. 7a).

Bulbous: of the base, ending in a bulb (Fig. 7b).

Caespitose: growing in loose groups or tufts (Fig. 8a). Cartilaginous: firm and tough but readily bent (Fries gave various meanings, hence several interpretations. Concept of 'breaking with a snap', sometimes appended, is not held by Kuhner & Romagnesi, Josserand or Mosery.

Cavernose: with one or several cavities (Fig. 9a).

Cheese-like: brittle e.g. Russula.

Clavate: club-shaped, base wider than apex (Fig. 10a) but also the opposite.

Connate: 2-3 or more, joined together (Fig. 8b).

Cylindric: of equal diameter throughout the height (Fig. 10b).

Immarginate: of a bulbous base, without a distinct ridge (Fig. 7b).

Exoentric: not at the centre of the cap (Fig. 11a).

Fasciculate: growing in bundles and, properly, joined

together over some length (cfr caespitose) (Fig. 8c). **Fibrous:** obviously fibrous when broken, hence not breaking cleanly (cfr cartilaginous).

Filiform: thread-like (Fig. 10c).
Fusiform: spindle-like (Fig. 10d).

Hispid: having more or less stiff hairs.

Hirsute: having long hairs. Hollow: with a lumen (Fig 3a).

Lacunose: of tissue with small holes (Fig. 9b).

Lateral: at the side of the cap (Fig. 11b).

Marginate: of the bulb, with a distinct ridge (Fig. 7d). Pilose: covered with hairs.

Pointed: at the stem base (Fig. 7c).

Radicant: a stem base prolonged by a root-like appendage (Fig. 7e).

Reticulate: ornamented with a net-like pattern.

Scrobiculate: with a pitted surface.

Seta (plur.: setae): a short, stiff hair, a bristle.

**Setose:** with setae, bristly (cfr hispid). **Solid:** filled homogeneously.

Strigose: with coarse hairs (= setose).

Stuffed: where the texture of the interior is looser than that of the cortex (Fig. 9c).

Ventricose: swelling out at the middle in a more pronounced way than in 'fusiform' (Fig. 10e).

Villose: bearing fine, soft hairs.

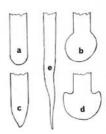


Fig. 7. Stem Base

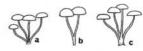


Fig. 8. Habit

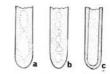


Fig. 9. Stem texture

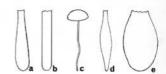


Fig. 10. Stem shape

#### THE RING (ANNULUS)

Arachnoid: cobweb-like i.e. a cortina.

Ascendant or Ascending: where the free edge of the ring is above the attached edge (Fig. 12a).

Cortina: thin veil of fibres connecting stem to cap.

Descendant or descending: where the free edge of the ring is below the attached edge (Fig. 12b).

**Double:** arising from both universal and partial veils and ornamented with their remains.

Fugacious: short-lived i.e. may be missing from a mature specimen.

Inferior: positioned below mid-height.

Membranaceous: like a thin skin or parchment.

Superior: positioned above mid-height.



Adnate: broadly attached (Fig. 13a).

Adnate with tooth: adnate with short decurrent attachment (Fig. 13c).

Adnexed: narrowly attached (Fig. 13b).

Anastomosing: joining together irregularly.

Arcuate: arc-like, curved concavely (Fig. 13i).

Ascendant: of gills whose margin rises increasingly steeply towards the point of insertion on the stem (Fig 13j).

**Collarium:** the well developed ring of tissue to which the remote gills are attached in some species e.g. *Lepiota* (Fig. 13k) and *Marasmius* (Fig. 13l).

Compound: of pores, with internal subdivisions (Fig. 14a). Crowded: close together (Fig. 15a).

Decurrent: running markedly down the stem (Fig. 13i).

Deliquescent: becoming liquid after maturity, autodigesting e.g. Coprinus.

Distant: widely separated (Fig. 15b).

Emarginate: notched near stem (Fig. 13d). Entire: not dentate, denticulate or serrate.

Fimbriate: distinctly fringed with cystidia.

Forking: dividing into two or more elements.

Free: not attached to stem (Fig. 13e)

Interveined: with shallow, transversal connexions between gills.

Mottled: appearance conferred by the uneven ripening, in small areas, of the dark spores (Fig. 16).

Remote: ending at some distance from stem (Fig 13f).

Serrate: edged with saw-like teeth.

Simple: of pores, without subdivision (Fig. 14b).

**Sinuate:** usually taken to be synonymous with emarginate but also of a gill with an abrupt narrowing near the stem (Fig. 13q), or of a waxy gill (Fig. 13h).

Subdecurrent: running down stem a short distance only (Fig. 13m).

Uncinate: hooked, emarginate with a decurrent tooth (fig. 13n)

Ventricose: markedly broader at the middle (Fig. 13e). Waxy: lustrous because thick and watery e.g. Hygrocybe.

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Fig. 11. Stem insertion



Fig. 12. Ring orientation



Fig. 13. Gill insertion



Fig. 14. Pore division

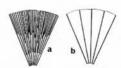


Fig. 15. Gill density



Fig. 16. Mottled gill



### THE JARGON EXPLAINED AND ILLUSTRATED — 4

MICROSCOPIC CHARACTERS CAP AND STEM

Caulocystidium: cystidium on stem.

Cell: although has a broader meaning, often used to describe a +/- rounded element in tissue.

Clamp: an outgrowth connecting the hyphae at either side of a septum (Fig. 17a).

Dermatocystidium: cystidium on cap.

Heteromerous: with pockets of rounded cells in a matrix of filamentous tissue (Fig. 18).

Homoiomerous: not differentiated into 2 cell types, i.e. wholly either of rounded cells or of elongated hyphae.

Hymeniform: of a cuticle structure where the cells are disposed as in a hymenium (Fig. 19) (cf Palisade).

Hypha: the basic filamentous element of fungi.

Generative hypha: the basic hypha (Fig. 20a) from which arise other elements and other hyphal types: Binding hypha: thick-walled much branched hypha which binds generative and skeletal hyphae (Fig. 20c). Skeletal hypha: thick-walled hypha, usually unbranched and aseptate (Fig. 20b).

Gloeohypha: of which the contents are oilv.

Lactiferous: containing a latex.

Hyphal system: the description of the hyphal structure, thus:

Monomitic: of generative hyphae only;

Dimitic: of generative and skeletal hyphae;

Trimitic: of generative, binding and skeletal hyphae. Palisade: of the cuticle, where the elements are +/parallel and elongate-clavate (Fig. 21) (cf Hymeniform). Pileocystidium: cystidium on cap.

Septum: a transverse wall in a hypha or other element. (basidium, spore) (Fig. 17b).

#### THE GILLS

Basidium (Plur: basidia): the clavate element (Fig. 22a) from which arise the spore-bearing sterigmata (Fig. 22b). Cheilocystidium: cystidium on the gill edge.

Chrysocystidium: with contents yellow in ammonia. Cystidium (Plur: Cystidia): sterile cell projecting from gill surface or edge, also from surface of cap and stem.

Ampulliform: flask-shaped (Fig. 23a).

Capitate: with a small round head on a stem (Fig. 23b). Clavate: club-shaped (Fig. 23c).

Digitate: with finger-like processes (Fig. 23d).

Diverticulate: with short finger-like processes (Fig. 23e). Lageniform: flask-shaped but with a broad neck (Fig. 23f).

Lecythiform: ninepin-shaped (Fig. 23g).

Mammillate: = Diverticulate.



Fig. 17. Clamp.

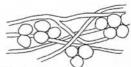


Fig. 18. Heteromerous tissue



Fig. 19. Hymeniform tissue



Fig. 21. Palisade





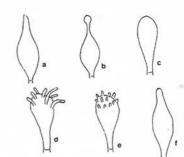


Fig. 23. Cystidial shapes (cont.)

Metuloid: thick-walled cystidium (Fig. 23h).

Mucronate: ending in a short sharp point (Fig. 23i). Muricate: with a crystal-ornamented apex (Fig 23j). Sphaeropedunculate: with a large spherical head on a short stem (Fig. 23k).

Subulate: slender and tapering to a point (Fig. 23l). Utriform: bag-like (Fig. 23m).

Divergent: of trama, with herringbone of hyphae pointing upwards (Fig. 24a).

Gloeocystidium: with oily or granular contents.

Inverse: of trama, with herringbone hyphae pointing downwards (Fig. 24b).

Irregular: of trama, with no particular disposition of the hyphae (Fig. 24c).

Pleurocystidium: cystidium on gill face.

Regular: of the trama, with the hyphae parallel (Fig. 24d). Sterigma (Plur: Sterigmata): see Basidium (Fig. 22b).

### THE SPORES GENERAL

Apiculus: short projection at basal end, by which spore was attached to the sterigma (Fig. 25a).

Costate: veined or ribbed (Fig. 26a) Echinulate: = spiny (Fig. 26d).

Germ-pore (or Pore): small hole near, or at, end opposite the apiculus (Fig. 25b).

Hilar depression: an area of the spore near the apiculus which is +/— depressed (Fig. 25c).

Ornamented: not smooth but with warts (Fig. 26a) ridges (Fig. 26b), and/or spines (Fig. 26c), etc.

Perispore: a loose enveloping membrane (Fig. 27).
Plage: on an ornamented spore, an area (= hilar depression) which is less, or not, ornamented (Fig. 26f).

Punctate: with a dot-like ornamentation (Fig. 26e).

Rough: neither smooth nor ornamented.

Verrucose: having warts.

#### SHAPE

Allantoid: sausage-like, i.e. slightly curved (Fig. 28a). Amygdaliform: almond-shaped (Fig 28b).

Angular (-polygonal): e.g. in Entoloma (Fig. 28c).

Constricted: narrowed somewhere along its length (Fig. 28d).

Cordate: heart-shaped (Fig. 28e).

Cylindric: with some measure of parallel sides (Fig. 28f).

Ellipsoid: ellipse-shaped (Fig. 28g).

Lachrymiform: tear-drop shaped (Fig. 28h).

Limoniform: lemon-shaped (Fig. 28i).

Mitriform: mitre-like (Fig. 28j).

Nodulose: with blunt protuberances (Fig. 28k).

Ovate: egg-shaped (Fig. 28l).

Phaseoliform: French bean-shaped (Fig. 28m).

Pip-shaped: apple pip-shaped (Fig. 28n).

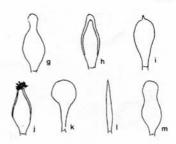


Fig. 23. Cystidial shapes



Fig. 24. Gill trama

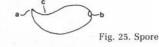




Fig. 26. Spore ornamentation



Fig. 27. Perispore

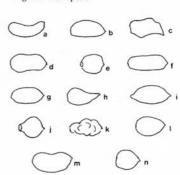


Fig. 28. Spore shapes

# THE JARGON EXPLAINED AND ILLUSTRATED — 5

APHYLLOPHORALES

Many of the terms used in the description of the agarics are also used in the description of the Aphyllophorales. Since it has not been possible adequately to represent some characters, references have been given to good photographs. BK refers to Breitenbach, J & Kranzlin, F Fungi of Switzerland, Vol 2 (1986); RP to R Phillips' Mushrooms and other fungi of Great Britain and Europe (1981).

#### MACROSCOPIC CHARACTERS

HABIT, SHAPE AND TEXTURE

Bracket: a fungus which projects +/- at right

angles from the substrate, usually hard or leathery (Fig. 29).

Conchoid: (also conchate, conchiform) the shape

of a bivalve shell (but which?)

Concrescent: of structures becoming joined as they

grow together.

Context: the trama of a carpophore (Fig 29a).

Coriaceous: of leathery texture.

Crust: a thick and hard layer on the outer surface of pileus and/or stipe (Fig 29b).

Cyphelloid: mussel or cup-shaped (Fig 30).

Dendroid: tree-like in shape, i.e. many branched.

Dichotomous: dividing into 2 +/- equal branches

(Fig 31).

Dimidiate: of which a half is less developed or

even absent (Fig 32).

Duplex: of a context consisting of 2 layers.

Effuse: stretched out flat, +/- irregularly, over the substrate with no pileus (=

resupinate) (Fig 33).

Effuso-reflexed: effuse but with margin turned up to

give a pileus (Fig 34).

Encrusted: forming a crust on the substrate.

Flabelliform: (also flabellate) fan-shaped (Fig 35).

Imbricate: where many pilei are close and partially cover each over (Fig 36).

Ligulate: narrow and flat, tongue-shaped (Fig

37).

Orbicular: regularly circular.

Polychotomous: dividing into more than 2 branches

(Fig 38)

Resupinate: spread flat over substrate (= effused).
Semipileate: with a pileus but also partly resupinate

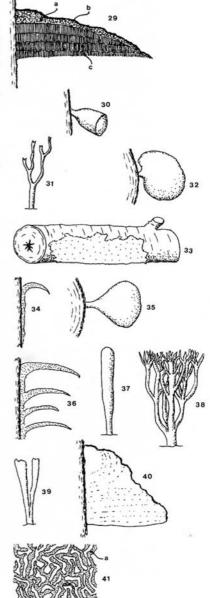
( = effuso-reflexed).

Spathulate: spoon-shaped or spatula-shaped (Fig 39).

Ungulate: shaped like a horse's hoof (Fig 40).

HYMENOPHORE Daedaleoid:

with elongate, tortuous, maze-like pores (Fig 41).



Dissepiment: Hydnoid:

the partition between tubes (Fig 41a). with long slender, +/- conical teeth (Hydnum repandum, RP 241).

Hypochnoid:

with loose floccose-velvety hymenium (Tomentella sp., BK 244-252).

Irpicoid:

having lacerate (torn) pores, teeth or platelets which are +/- connate.

Labyrinthiform: Lenzitoid:

 daedaleoid of a bracket with a lamellate

Merulioid:

hymenophore. reticulately shallow-pored (Merulius

Odontoid:

tremellosus, RP 239). with short, +/- developed teeth (Stec-

Raduloid:

cherinum ochraceum, BK 194). with thin, obtuse or flattened teeth (Hyphoderma radula, BK 128)

Phlebioid:

irregularly wrinkled (Phlebia merismoides, RP 238).

Poroid: Stratified:

with pores Reticulate:

net-like (Merulius tremellosus, RP 238). where the hymenophores of successive years are layered on each other (Fig

29c).

Trametoid:

like a bracket of leathery texture with small pores.

### MICROSCOPICAL CHARACTERS

Asterosetae: Chlamydospore: Conidium (Conidiospore):

stellately branched setae (Fig 42). a thick-walled conidium.

Cystidium

a sexual reproductive cell, often arising by abscission from a hypha. (see Part 4):

Halo-:

with oily-resinous inclusion between inner and outer wall, not in the plasma (Fig 43).

Lageno-:

with swollen base, narrowed top (Fig. 44).

Lampro-:

thick-walled cystidium with or without encrustation (Fig 45).

Lepto-:

smooth, thin-walled cystidium (Fig 46).

Lyo-:

thick-walled cystidium, the wall of which dissolves immediately in 10%

KOH.

Moniliform:

with swellings and constrictions along its length (Fig 47).

Septo-:

cystidium with 1 or more septa beyond the basal septum (Fig 48).

Hyphidium: Acantho-: Dendro-:

a +/- modified terminal hypha with many short spines (Fig 49). severally branched with narrow base

Dicho-:

(Fig 50). dichotomously branched, base narrow

(Fig 51). Haplo-:

unmodified, little or not branched. Also referred to as Acanthophysis, Dendrophysis, etc.

Setae:

brown, thick-walled, acute sterile structures in hymenium or context of Hymenochaetaceae (Fig 52).

Skeletoid:

generative hyphae with very thick walls and with true septa, with or without clamps. J V R Marriott

