**Agaricaceae**
Includes the following taxa in California:

Agaricus (c. 45 species)
Agaricus texensis (Arora: as Longula texensis)
Agaricus inapertus (Arora: as Endoptychum depressum)
Agaricus aridicola (syn. Gyrophragmium dunalii)
Melanophyllum haematospermum (1 species)
Leptiotus (Arora: in Lepiotaecae) (c. 25 species)
Cystolepiota (Arora: not recognized, included in Leptiotus) (4-5 species)
Chlorophyllum including Endoptychum agaricoides and part of (Macro)Lepiota (Arora:
Leptiotaceae; Podaxales & allies resp.) (4 species)
Leucoagaricus and Leucocoprinus (Arora: not recognized, included in Leptiotus) (c. 50 species)
Macrolepiota (Arora: not recognized, included in Leptiotus) (perhaps 2 species in southern CA)
Coprinus comatus and C. stercorarius (Arora: in Coprinaceae) (2 species)
Montagnea (Arora: in Podaxales & allies) (at least 1 species)
Podaxis pistillaris (Arora: in Podaxales & allies) (1 species)
Lycoperdaceae (Bovista, Calvatia, Disciseda, Lycoperdon, Morganella, Mycenastrum, Vascellum)
Tulostomatales excl. Calostoma (Battarrea, Chlamydopus, Tulostoma, Phellorina, Schizostoma)

**Psathyrellaceae** – exact species numbers in CA unknown
Replaces Coprinaceae, consists of: Coprinopsis, Coprinellus and Parasola (all three as Coprinus
in Arora), and Psathyrella and Lacrymari. The genus borders are still in flux with more work on
Psathyrella itself.
Panaeolus, Anellaria and Panaeolina are not in the Coprinaceae anymore, but as Panaeoleae in
between Tubariegae and Gymnopileae.

**Bolbitiaceae** – exact species numbers in CA unknown
Bolbitius, Conocybe and Pholiota (veiled Conocybe); Agrocybe is split up with the bulk of the
genus in the Strophariaceae, and A. erebia is somewhere near Tubaria et al.

Literature:
to the systematics of some gasteroid mushrooms. Mycologia 93: 947-957.
Matheny, P.B. et al., 2007. **Major clades of Agaricales**: a multilocus phylogenetic overview.
Mycologia 98: 982-995.
Moncalvo, J.-M., R. Vilgalys, S.A. Redhead, J.E. Johnson, T.Y. James, M.C. Aime, V.
Phylogenetics and Evolution 23: 357-400.
McIlvainea 14 (2): 5-14.
Keys for *Agaricus*:
Stevens, F., Trial key to common *Agaricus* species of the central California coast. See http://www.mykoweb.com/misc/Agaricus_key.pdf

Key for *Chlorophyllum*:

Key for *Cystolepiota*:

Key for *Coprinus* s.l.:

Keys for *Psathyrella*:

Keys for *Conocybe* and *Pholiotina*:

Key for ‘Gasteromycetes’

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http://plantbio.berkeley.edu/~bruns/people/ev.html
Fig. 1. Fifty percent majority-rule Bayesian cladogram of the Agaricales, six major clades and outgroups produced from combined rpb1, rpb1-intron2, rpb2, 18S, 25S and 5.8S nucleotide sequences for a supermatrix of 250 taxa (dataset II). Posterior probabilities ≥0.95 are indicated above branches. MP bootstrap values ≥40% are shown below branches. Italicized support values are derived from analyses of datasets I and III and are indicated as such. MP refers to a branch that is present in the
combined MP bootstrap consensus tree of dataset II, plus other groups compatible with that tree but with less than 40% bootstrap support. Thickened black branches refer to taxa with an EM habit; thickened gray branches represent an equivocal state; thin black branches represent the non-EM state.