

# Armillaria Key

By

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# A PILOT SCHEME

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During a tour of duty in Australia it was very evident that our colleagues there have a very complex problem centred around numbers of the genus *Armillaria*, what the native species if any were and whether the true *A. mellea* had been introduced there. For some time now strains of '*A. mellea*' have been accumulated at Edinburgh and in some cases screened for pathogenicity to ericaceous shrubs as part of the programme on the Ericaceae presently being carried out at Royal Botanic Garden, Edinburgh. The two studies were dove-tailed together in an attempt to help our Australian and New Zealand colleagues; New Zealand is included as from that country two species, *A. limonea* and *A. novae-zelandiae* have been described and one would wish to know where they fit in the classification of the genus.

One of the first stages of the study was to examine the European material, something which had been foremost also in Henri Romagnesi's mind resulting in his recent publications. Rolf Singer has always taken a great interest in the genus and recently he and Heinz Clemençon redefined Secretan's *A. polymyces*. These studies have been published whilst in Edinburgh we have preferred to accumulate data from various parts of Europe and North America. At least the concept of *Armillaria mellea* sensu stricto is the same for both Romagnesi and Singer and workers in Edinburgh but I believe we still have insufficient data particularly on host specificity of *A. mellea* and its related species. It would therefore be extremely useful if others became interested in this study, as important characters can be studied in the field such as colour of young buttons, colour of spore-print when scraped into a pile, immediately, after one hour, six hours, and twenty-four hours, and seven days, whether the fruit-body is mild or astringent to taste and if the latter how long it takes to develop. It is thought all these macroscopic characters can be correlated to anatomical details.

The following field-key is offered as an experiment to be tested. It has worked for those who wrote it but does it work for those who identify agarics? Are the characters chosen constant enough throughout the taxon's range? Host and phytogeographical data have been omitted although there appears to be some correlation with macromorphology. I do not wish to bias such observations as are made. If you are wanting to help please do not compare your identifications with coloured illustrations! These may be erroneous and misleading to you, and perplexing to those connected with this study if the data given is in any way influenced.

## Field Key to suspected British Species of *Armillaria*

Spore-mass colour from British Fungus Flora: Agarics and Boleti HMSO 1969.

1. Spore-mass white A → B *Armillaria* sp. A.
2. Spore-mass ivory white to distinctly cream B—E..... 2.
  2. Veil initially as a universal membrane but in mature basidiocarps only represented by scales on the stem from mid-way to base, and on the cap either as scales or simply as radially arranged fibrils ..... 3.
  2. Veil initially both as partial and universal membranes leaving remains as scales both on cap and stem and as ring on stem ..... 4.
3. On wood, in small groups; cap scaly at centre and towards margin ..... *A. tabescens*

3. On boggy soil, amongst rushes and sedges, often at margins of open water silting up with sediment; cap fibrillose streaky not scaly ..... *A. ectypa*
4. Universal veil sulphur or greenish yellow to lemon chrome, leaving olivaceous or golden tipped scales on cap and yellowish floccules on underside of ring but rarely as scales at margin of ring ..... *A. mellea*
4. Universal veil on underside of ring brown buff, sepia or grey but never yellow, leaving brown scales flushed olivaceous or ochraceous on cap ..... 5.
5. Ring whitish grey with sepia or hazel scales on underside of ring and on lower part of stipe; scurfy greyish to brownish scales on cap ..... 6.
5. Ring pinkish buff or pale brown with vandyke brown or rust-tawny scales on both cap and ring ..... 7.
6. Ring with sepia or hazel scales on underside and on lower part of stem; scurfy greyish to brownish scales on cap. Spore-print B—C on drying; cap honey or pinkish brown ..... *A. polymyces*
6. Ring with whitish or mouse to dove grey to silvery scales on underside and on lower part of stem; fibrillose to scurfy, whitish or pale grey scales on cap. Spore-print C—D(E) on drying; Pileus mottled ochraceous ..... *Armillaria* sp.
7. Cap and gills with distinct pinkish cinnamon-colour; dark brown scales on cap, stem and below ring, but not forming a distinct pattern on the ring ..... *A. obscura*
7. Cap and gills with distinct pinkish cinnamon-colour; vandyke brown or chocolate brown scales on stem and at margin of ring forming a fan-like pattern ..... *A. ostroyae*

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