Mycological practice

Daniel Dvořák

collecting and preparation of fungi

In the field:

collect whole fruitbodies (important features for further determination)

if possible, collect representative material – young and mature fresh fruitbodies (=not rotten, stale, very old, frozen etc.)

tiny and fragile fruitbodies put separately into boxes

larger ones wrap into aluminium foil (or into newspaper – not suitable for sticky or slimy frbs.)

put into firm box, basket etc. (fruitbodies should not be smashed/damaged or dry out)

it is better to assign number for each collection already in the field

collecting and preparation of fungi

information to be noted in the field:

topographical notes

ecological conditions in the locality:

- surrounding trees
- substrate (soil, litter, wood – in wood-inhabiting species collect a small piece of wood for possible xylotomic analysis in the future)

some features, quickly disappearing/changing (esp. in small species):

- smell (check also gills and base of the stipe separately)
- presence of pruina
- hygrophanity
- lubricous, sticky or slimy surfaces (stipe of *Hygrocybe insipida*)
- veil
- colour of young, immature gills (later covered by spore print)

photographical documentation recommended

collecting and preparation of fungi

after returning from the field, if you are not going to determine collections immediately (and sometimes even if you are), make a detailed description:

colour photo picture (if not taken already in the field) – take care about proper setting of white ballance!

colour of the whole fruitbody and its parts, observe under daylight if possible (or use special lamp with colour of the light similar to daylight)

note initial colour of the context and its eventual discolouring

also surface of fruitbody may discolour after handling, bruising etc.

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Kornerup A. et Wanscher J.H. (1967): Methuen Handbook of Colour. Second edition. Methuen Co., London. 243 pp + 30 two-page color plates. (1440 colours)

Munsell soil color charts, 1988 (205 colours)

Küppers H (2003): Du Mont's Farbenatlas. (5500 colours)

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special colour charts can be used, where specific code is assigned to observed colour (chromotaxy)

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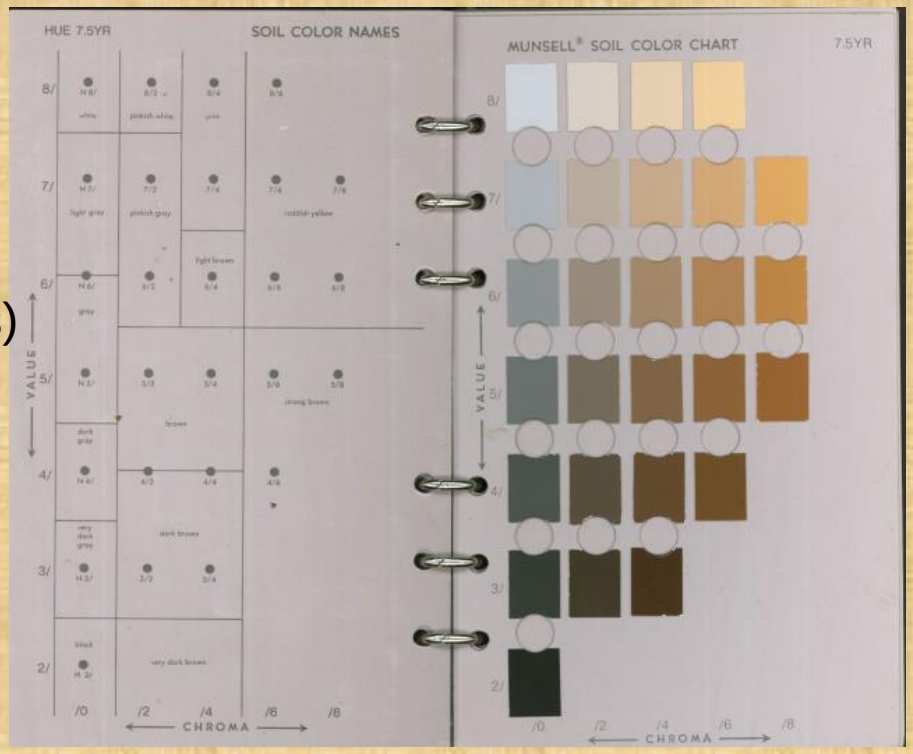
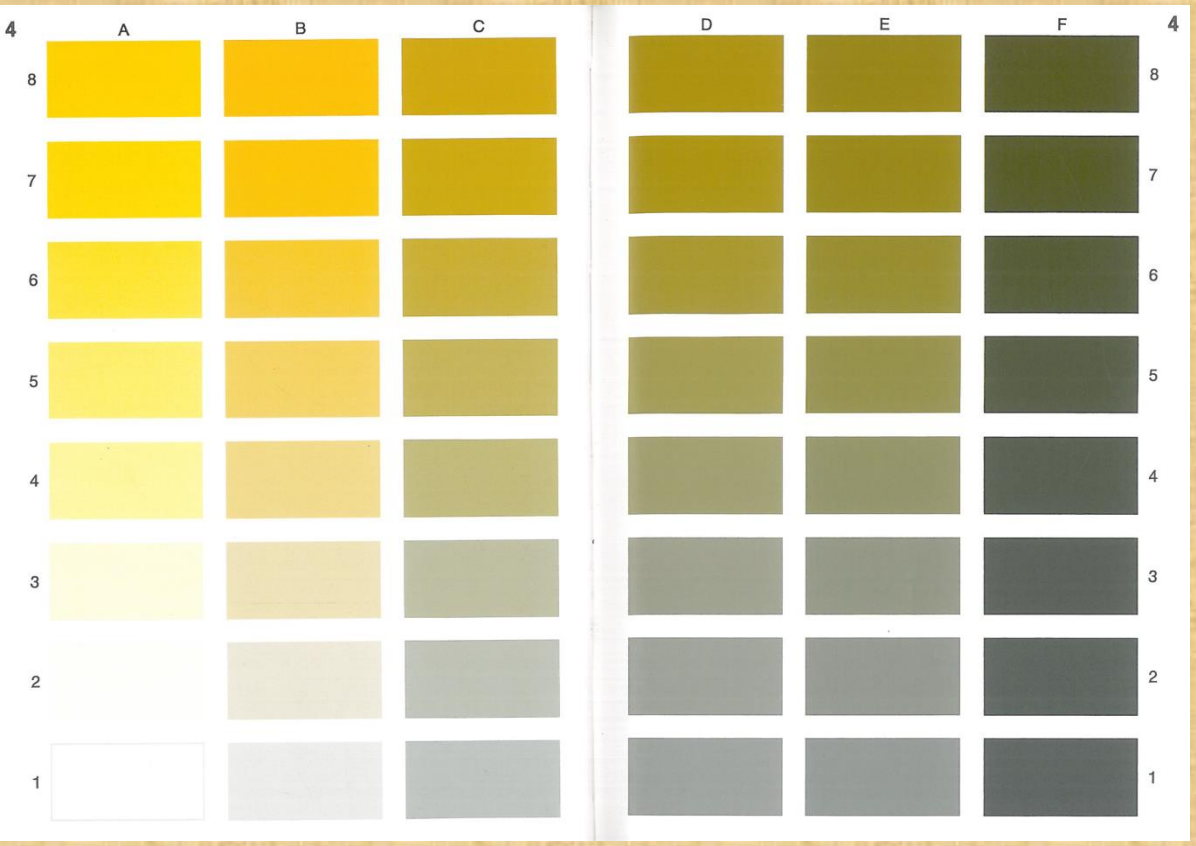


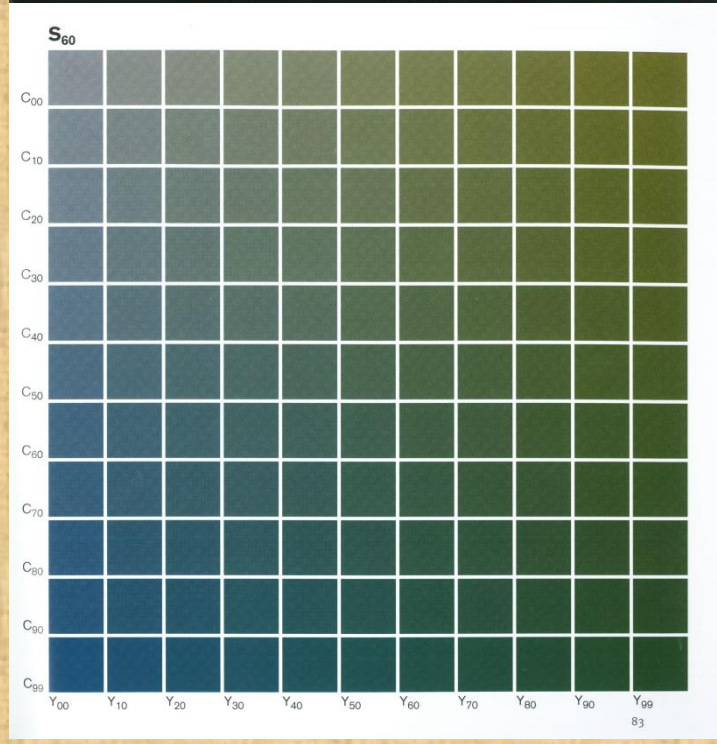
„Munsell“ 1988

collecting and preparation

Küppers 2003

Kornerup et Wanscher 1978





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detailed description should also include:

taste (may differ in the surfaces)

smell (may change during drying)

morphological description (see later)

presence and character of the veil (young frbs.!)

colour of spore print – put a pileus on glass slide/white paper and cover, let it lie for several hours

conserving and storage of fungi

drying

electric drier or another source of heat (temperature should not exceed 50 °C, ideally 30-40 °C)

- larger fungi cut in half or in large pieces

- dry into constant weight = totally! (fleshy fruitbodies and polypores dry for a long time); afterwards fruitbodies can be exposed to humidity for a while (to lose fragility)

- pack into newspaper/paper envelope or zip plastic bag and put into an envelope with label:

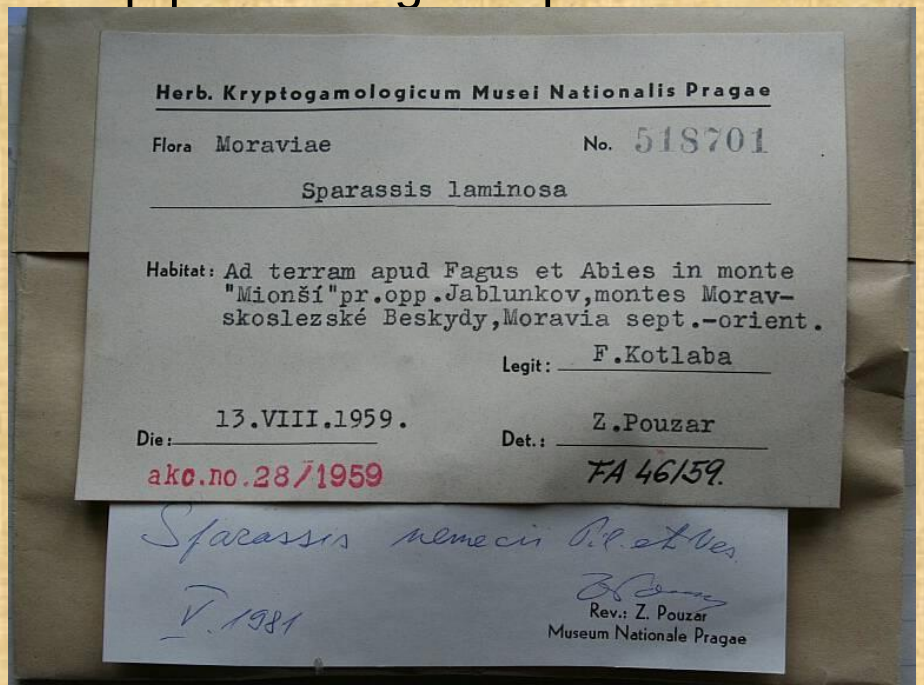
• fungus name

• locality, habitat

• date of collection, name of collector

slender frbs. can be dried in closed box with silica gel (amorphous silicon dioxide)

store in dry place!



conserving and storage of fungi

drying

dried collections may be contaminated by moulds (when they get wet) and, especially damaged by insects (moths, beetles)

especially sensitive are some polypores (*Trametes*), hydnoid species, some gilled fungi (Russula, Lactarius etc.) → dezinsection is necessary! (immedietely after drying + at least once per year):

- deep freezing: store several days in temp. < -30°C

- fumigation: CS_2 (strongly toxic), PH_3 (extremely toxic), other insecticides

- combinaton of both

advantages: easy preparation, durability in dry conditions

disadvantages: fruitbodies dramatically change shape and colour

→ used in most scientific herbarium collections (museums, universities)

conserving and storage of fungi

conservation in liquids

- many liquids used, mainly containing formaldehyde, acetic acid, ghlycerol and ethanol

- stored in polyethylene or glass containers

advantages: well-preserved shape of fruitbody

disadvantages: too bulky, difficult transport, change of colours

→ used mainly in the past for exhibition purposes

lyophilization

- drying in low temperature and low pressure (~in vacuum)

- dried material easily gets wet again (store in dry place!)

advantages: well preserved shape and colour

disadvantages: very high initial costs, relatively bulky (the fruitbodies do nt shrink)

→ scarcely used