Discrete, specific microfossils
NB: usually one form per species (although it may not be possible to distinguish related species, or even genera within the same family in some cases)

- **Pollen and spores** (Palynology)
  - Pollen from conifers and flowering plants (Gymnosperms and Angiosperms)
  - Spores from ferns, mosses, fungi
  - Some phytoplankton types provide information on aquatic environments, such as salinity or ocean depth, including
  - **Diatoms** (taxonomic Class Bacillariophyceae)
    - Unicellular, aquatic algae with silicaceous exoskeletons
  - **Dinoflagellates** (taxonomic Division Pyrrhophyta)
    - Unicellular ‘red’ algae, with cellulose armor plates.
    - Certain dinoflagellates are an important component of corals

Disarticulated, non-specific morphotypes
NB: Numerous forms produced in a given plant and species, extensive sharing of forms between different species, including distantly related ones, occasional morphotypes are more taxonomically diagnostic, especially when still articulated (therefore reflecting epidermal cell patterns).

- **Phytoliths** (also called plant opals)
- **Articulated phytoliths** (multiple silicified cells attached, sometime called spodograms)

Sampling for Microremains
Processing is done in the laboratory with chemical extraction. Bulk sediment samples, either from on-site archaeological contexts/strata, or off-site from coring of natural sedimentary deposits, e.g. bogs, lake beds, etc. Sample sizes are small (e.g. 50mL), with only a fraction processes at one time. For non-sealed (e.g. core) samples, caution must be taken to avoid to minimise contamination by windborne particles, e.g. through immediate samples of freshly cleaned sections.
Pollen: Further Reading


For some images of pollen on the Web:
Pollen catalogue of the British isles (University of Uppsala):
http://www.kv.geo.uu.se/pb-intro.html
http://www.geo.arizona.edu/palynology/sit_mnt0.html

Diatoms: Further Reading


For images of selected diatoms, see these web sites:
http://www.calacademy.org/research/diatoms/
http://www.bgsu.edu/departments/biology/alge/index.html
http://www.indiana.edu/~diatom/diatom.html

Phytoliths: Further Reading


For images of phytoliths, try these websites:
http://reled.byu.edu/ascript/tball/index2.html
http://www.southalabama.edu/geography/fearn/phyto.htm