The concentrations of micro elements in sclerotia of *Cenococcum geophilum*

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Most of the trees existing in the world have symbiotic relation with mycorrhizal fungi that help nutrient uptake by tree roots. The resting bodies of mycorrhizal fungi, so called sclerotia, are formed to survive under critical environmental conditions such as nutrient deficiency, low temperature, desiccation, forest fires and so on. Sclerotia of *Cenococcum geophilum* and the related speices have a durable black spherical structure (1-2mm diameter) and can be visually detected from the forest soil. [1] The persistance of sclerotia in soil and sediment is estimated as up to several thousand years or older and aluminum (2wt%) has been pointed out as a specific metal concentrated in the grain. [2] *Cg* sclerotia found from low pH forest soils is characterized by having 50-60 wt% carbon, 30-40 wt% oxygen, and aluminum (2wt%). Heavy metals are also incorporated in the order of 10 to 100 ppm. [3] This study aimed to acquire knowledge of micro elements in sclerotia and their enrichment mechanism by soil environment. For this purpose, the elemental concentration of sclerotia collected from Mongolian Mollisols and Japanese Andosols forest soils was obained by combining ICP-OES and ICP-MS analyses. XRF analysis was carried out to obtain the soil micro elemental concentration. The characteristics of element transfer from soil to sclerotia were discussed.

[1] Trappe (1964) *Lloydia* **27**, 100-106. [2] Watanabe *et al*. (2007) *Soil Sci. Plant Nutr*. **53**,125-131. [3] Watanabe *et al*. (2007) *European J. of Soil Sci* **58**, 786-793 .