



## Biodiversity anomalies and their geological substrate :

### Clash of paradigms

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Mineral extraction vs Ecology: adversaries or allies ?

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1<sup>st</sup> impression: **apparently** natural landscape  
BUT: severely disturbed by mineral prospecting and extraction  
without leaving visible traces since 150 years  
contrary to assumptions of biologists  
(‘**undisturbed for hundreds of years**’)



Moelingen nature reserve  
number 1 in Europe for waxcap fungi

**Clash of paradigms  
or different views on nature conservation by biologists and geologists**



former  
lead mine  
entrance

exploration  
trenches  
spoil heaps

buried chalk  
quarry  
further north

**Biology paradigm: maximum diversity at stable condition**  
*‘very ancient, undisturbed, nutrient-poor, extensively used grasslands  
with very high nature values’*  
**vs geology paradigm : mineral anomalies !**



## **Reflection on nature conservation:**

**The big trauma of biologists: nature becomes homogenised  
nature moves to monotonous climax vegetation under stable conditions  
'what is seldom is wiped out, despite protection'**

**The great consolation by geologists:**

**Biodiversity anomalies react to severe disturbance of the soil**

**No difference between man-made and natural disturbances**

**Biodiversity hotspots are not the result of optimal living conditions**

**resulting in climax vegetation, but of disturbance and instability ,**

**preventing growth of climax vegetation, giving chances to rare plants**

**geological anomalies lead to biological anomalies**

**and to biodiversity hotspots**

**Biologists adhere to a stable but fragile world, easy to destabilise**

**However, dynamic earth is at origin of differentiated ecosystems**

**Some provocative thoughts:**

➤ **if loss cannot be avoided, gains must be allowed**

➤ **new quarries guarantee future biodiversity**

↪ **the geological anomaly is great, generating biodiversity'**