

Synsystematics for the scientist or the practitioner?

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In 1972 a first general overview on the Swiss Forest Associations appeared (Ellenberg and Klötzli, 1972), which was then used as a basis for most mapping projects (ca. 2/3 of the Swiss forest surface, more than 840.000 ha). Since then most gaps in knowledge have been closed, especially in eastern Switzerland. And: in view of the new edition of the "Oberdorfer" and the new first general description of the Austrian vegetation, a revision of the old version became necessary. It is now based on ca. 15.000 relevés stored at the Swiss Federal Research Station for Forest, Snow and Landscape (WSL).

A group of experts of the Universities and out of practical forestry is actually following the development of this project, edited by J. Burnand. So far, the criteria for the establishment of a mapping unit (associations, few subassociations) have been fixed and the general disposition for the description of a unit (around 100 units). Basis for the evaluation is, as usual, the Braun-Blanquet approach. For mesic sites and the species poor high altitude coniferous forests some additional criteria have been developed (most of them described in Frey, 1995).

The new approach has not got to satisfy science alone, but also the forestry practitioners. Therefore, the frame and the units must be understood and accepted by the practitioner.

With the following a list of items is given explaining the disposition of each chapter on the units:

- Short description of unit and site
- floristic description, phenology
- structure and dynamics of the forest unit, development of a stand
- human influence, old management techniques
- analysis and statistical data on the taxa of the unit, viz.
 - combination of constant species and partly dominating species
 - synsystematics and neighbouring syntaxa
 - differential species (positive and "negative" species i.e. not occurring in that unit, but in a neighbouring one)
 - man induced "forest units"

- Site conditions
 - “secondary site factors” such as distribution, parentrock/geology, climate, soil, humusform, capacity to store water and nutrients
 - “ecotypography” (sensu Lüscher), especially humus qualifications, profile-differentiation
 - differentiating site conditions towards contacting units
 - “primary site factors” such as temperature regime, water and nutrient regime, mechanical influence (slope stability, snow pressure, water erosion etc.)
- Yield and other production values
- Systematic comparison, nomenclature, synonyma, regional papers, relevés considered
- Evaluation of findings
 - forest functions (conservation, protective value, wood production, social values)
 - silviculture (qualifications, mixture of tree species, regeneration, management)
- Typical soil profiles (annexe)

With this scientific treatment of each unit we endeavour an optimum evaluation of all data. With additional criteria we try to give an utmost input for the description of all mesic and species-poor sites. We hope to obey the epistemological needs without neglecting the demands of the practician in silviculture and conservation. And, last but not least, we try to give a first view on the vegetational shifts occurring due to the general warming.

REFERENCES

- ELLENBERG H., KLÖTZLI F., 1995 – *Waldgesellschaften und Waldstandorte der Schweiz* - Mitt. Schweiz. Anst. Forst. Vers'wes 48: 587-930.
- FREY H.U., 1995 – *Waldgesellschaften und Waldstandorte im St. Galler Berggebiet* - Veröff. Geobot. Inst. ETH, Spiflg. Rüben, Zürich 126 a 8bl 280 S+Tab.+Veg. K. (there further references!).
- MUCINA L., GRÄBHERR G., ELLMAUER Th., WALLNÖFER S., 1993 – *Die Pflanzengesellschaften Österreichs, I-III*. G. Fischer, Jena, Stuttgart, New York, 578 + 523 + 353 pp.