

GENERAL INFORMATION

author(s)	Deruwe J
year	1983
English title	Quantitative study of the phenology and the aboveground biomass of the herb layer in the Aelmoeseneie forest in Landskouter-Gontrode (East-Flanders)
original title	Kwantitatieve analyse van de fenologie en de bovengrondse biomassa van de kruidlaag in het Aelmoeseneie-bos te Landskouter-Gontrode (O.-VI.)
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keywords	tree layer, shrub layer, herb layer, moss layer, pH, soil moisture, light intensity, biomass
taxa	
project	
supervisor	Van Der Veken P
institution	Faculteit van de Wetenschappen, Groep Plantkunde
document	hardcopy
data	per plot: projection drawings (p 131–153) per plot and sampling date: vegetation Londo-scale (p 120–122); pH, soil moisture, light intensity, biomass herb litter, biomass wood litter (p 123–128) Flora&Fauna.xls

MATERIALS & METHODS

study area	5b, 5e/f, 5n
time period	August 1981 – May 1982
goal	Quantification of the phenology and the changes in biomass of the herb layer during 1 year. Find out which ecological variables determine the structure and composition of the herb layer and which strategies the plants develop to survive. Investigate the importance of sample size for the quantification of biomass.
set-up	4 plots: dry + higher altitude (1, 4), wet + lower altitude (2, 3) – selection in July 1981 100 m ² , subdivided into 400 subplots of 0.5 m x 0.5 m subsubplots of 25 cm x 25 cm for a methodology test
data collection	6 sample dates per plot (August, October, December, March, April, May): 10 subplots per sample date (Fig. IV.2.a–d p 110–113) <ul style="list-style-type: none"> - overall cover, cover of the herb layer, cover of the moss layer, cover of each species (Londo) - herb layer harvested and sorted per species, dry mass - number and height of <i>Acer pseudoplatanus</i> seedlings < 1 m (except for the 1st sampling date), age of the <i>A. pseudoplatanus</i> seedlings (4-6th sampling), dry mass - newly germinated seedlings (4-6th sampling), dry mass - litter: leaf and herb litter vs. woody litter, dry mass - soil sample (5 cm x 10 cm x 5 cm depth): pH, soil moisture - light intensity Horizontal and vertical projection drawings of the tree and shrub layer Sampling per subsubplots (first three sampling dates in plot 1 and 3): cover, biomass, light,
remarks	

RESULTS

Description of the 4 plots: structure, vegetation. The amount of litter, the pH, soil moisture, and light intensity showed a clear seasonal pattern. The leaf litter and the woody litter showed a similar pattern, although the variation was lower for the woody litter: lowest amounts at the end of summer, maximum amount during winter. Soil pH was lowest in May. Light intensity was highest during winter and lowest between August-October. Aboveground biomass was largest in April-August and lowest during winter.

Three phenology types were found: tree species juveniles (SC summer species, phanerophytes), evergreen summer species (S, chamaephytes), spring species (geophytes).

Soil pH was negatively correlated with the amount of litter (leaf litter and total litter) and positively with soil moisture.

Three types of shoot morphology were described that enabled species to grow in areas with large amounts of litter: creeping shoots, staff-formed shoots with 'bowed head', spear head shoot.

The variation in structure and species composition were determined by the gradient of soil richness (pH, litter and soil moisture) and the dominance in biomass of certain species (*Lamium galeobdolon*, *Acer pseudoplatanus*, *Hedera helix*, *Glechoma hederacea*). Results were similar for the biomass and the cover data.