PLANT FORM AND VEGETATION STRUCTURE

Adaptation, plasticity and relation to herbivory

edited by M.J.A. Werger, P.J.M. van der Aart, H.J. During & J.T.A. Verhoeven

CONTENTS

Preface ix
Barkman, J.J., Some reflections on plant architecture and its ecological implications. A personal view demonstrated on two species of Quercus 1
Barkman, J.J., New systems of plant growth forms and phenological plant types 9
Komářková, V. and McKendrick, J.D., Patterns in vascular plant growth forms in arctic communities and environment at Atkasook, Alaska 45
Epp, G.A. and Aarssen, L.W., Attributes of competitive ability in herbaceous plants 71
De Broeck, L.J., Germination and establishment of dicotyledons in grasslands 77
Wright, R.A. and Mueller-Dombois, D., Relationships among shrub population structure, species associations, seedling root form and early volcanic succession, Hawaii 87
Figueroa, M.E. and Castellanos, E.M., Vertical structure of Spartina maritima and Spartina densiflora in mediterranean marshes 105
Lotz, L.A.P. and Olff, H., Variation in biomass and architecture of plants due to small-scale environmental heterogeneity 109
Hutchings, M.J. and Slade, A.J., Aspects of the structure of clonal perennial herbs 121
Hirose, T., Nitrogen availability, optimal shoot/root ratios and plant growth 135
Hara, T. and Haraguchi, A., Phenotypic responses of plants to environmental conditions 147
Grace, J.C., Effect of foliage distribution within tree crowns on intercepted radiant energy and photosynthesis 153
Kellomäki, S., Dynamics of the branch population in the canopy of young Scots Pine stands based on modular growth 161
Werger, M.J.A. and Hirose, T., Effects of light climate and nitrogen partitioning on the canopy structure of stands of dicotyledonous herbaceous vegetation 171
Ojea, I., Pereiras, J. and Basanta, M., Vertical distribution of photosynthetic and non-photosynthetic phytomass in Ulex europaeus 183
Bongers, F. and Popma, J., Is exposure-related variation in leaf characteristics of tropical rain forest species adaptive? 191
Grace, J., The functional significance of short stature in montane vegetation 201
Shmida, A. and Burgess, T.L., Plant growth-form strategies and vegetation types in arid environments 211
Whigham, D.F. and O’Neill, J., The importance of predation and small scale disturbance to two woodland herb species 243
MacLean, D.A., Effects of spruce budworm outbreaks on vegetation, structure, and succession of Balsam Fir forests on Cape Breton Island, Canada 253
Contents

Brown, V.K., Gange, A.C. and Gibson, C.W.D., Insect herbivory and vegetational structure 263
Jefferies, R.L., Pattern and process in arctic coastal vegetation in response to foraging by Lesser Snow Geese 281
Whicker, A.D. and Detling, J.K., Modification of vegetation structure and ecosystem processes by North American grassland mammals 301
Sala, O.E., The effect of herbivory on vegetation structure 317
McNaughton, S.J. and Sabuni, G.A., Large African mammals as regulators of vegetation structure 339
Index of keywords 355