

BOOK REVIEW

S. J. Meiners, S. T. A. Pickett, M. L. Cadenasso: THE INTEGRATIVE APPROACH TO SUCCESSIONAL DYNAMICS. TEMPO AND MODE OF VEGETATION CHANGE.- Cambridge University Press, 2015, 303 p., ISBN 978-0-521-11642-8 Hardback.

The authors declare: "Our goal in writing this book is simple - to develop a greater understanding of plant community dynamics." Our book reviews have included the topic of ecological succession as a tool of near-natural processes applied in environmental manipulations - in context of ecological restoration or ecosystem services (Kovář, 2012; 2013). Partial features of the succession concept in the mentioned uses generally should be highlighted in wider context. This is the ambition of three authors equipped empirically and experimentally mostly with vegetation behaviour and development knowledge: The monograph "An Integrative Approach to Successional Dynamics" presents a unifying conceptual framework for dynamic plant communities and uses a unique long-term data set to explore the utility of that framework.

The theme is subdivided by the following way:

1. Goals, concepts and definitions

- Part 1 The conceptual background and development of succession

2. History and context of the Buell-Small Succession Study
 3. Succession theory
 4. Conceptual frameworks and integration: drivers and theory

- Part 2 Successional patterns in the BSS data

5. Community patterns and dynamics
 6. Dynamics of populations through succession
 7. Impacts of drought and other disturbances on succession
 8. Dynamics of diversity

- Part 3 Integrative themes

9. Convergence and community assembly
 10. Successional equivalence of native and non-native species
 11. Heterogeneity in dynamic systems
 12. Functional ecology of community dynamics

- Part 4 Synthesis

13. Succession, habitat management and restoration
 14. Where we stand: lessons and opportunities

Starting from Charles Darwin (Origin of species., 1859) the conceptual considerations go towards the question: Why is succession relevant today? We can discover or investigate agricultural context (former farmland as adaptations of nature), context of natural disturbance regimes (periodicity/severity in variables), context of gene expression or genome size of species represented in particular seres, etc. The interpretation of drought as a kind of disturbance is also interesting (more common is the perception of drought as a stress factor, in ecological terminology), Chapter 7. Project Buell-Small Succession Study (BSS) is one of the longest continual studies of former farmland succession (55 year span). It is primarily an observational study, however, it has significant scientific and landscape outputs. In theory, the results consist of recognizing and explaining patterns. Long-term collection of data enables robust synthesis: it is addressed mainly to habitat restoration, remediation and management; simply to practice.

The fourteen chapters, written in an approachable way and richly illustrated, cover the scale of the all key aspects of succession, including: community, population and disturbance dynamics, diversity, community way of assemblage, heterogeneity, functional ecology and biological invasion. At the same time, the text is a very good source of reference for researchers and graduate students in vegetation ecology and plant biology. Landscape-ecological manifestations of the research are inconsiderable and recommendable.

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REFERENCES

- Kovář, P., (2012). R. E. Hester & R. M. Harrison (eds.): ECOSYSTEM SERVICES.– RSC Publishing, 2010,176 p., ISBN 978-1-84973-018-1.- *Journal of Landscape Ecology*, 5(1): 73-74.
- Kovář, P., (2013). D. J. Tongway, J. A. Ludwig: Restoring disturbed landscapes. Putting principles into practice. – Island Press, Washington, Covelo, London, 2011, 189 p., ISBN-978-1-59726-580-5. – *Journal of Landscape Ecology*, 6(1): 85-86.

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