Biodiversity in Dead Wood


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Rarely does a book elicit such doubt on a cursory glance at its title, yet among its pages spill forth an amplitude of evidence contrary to first impressions. The words “dead” and “biodiversity” are often not synonymous. Yet, the authors have compiled a body of work to prove otherwise…that detritus begets life. Notably, the three authors represent the countries in which the biodiversity of deadwood-dependent organisms (i.e., saproxylic species) has been most thoroughly investigated: Norway (J.N Stockland), Finland (J. Siitonen), and Sweden (B.G. Jonsson). Their combined expertise allows a quite broad coverage of topical chapters, from the evolution of deadwood-dependent organisms to practical applications for “morticulture” (i.e., dead wood creation). As foresters, we all know that forests foster a plethora of biotic diversity from canopy tops to soil microorganisms. Within this continuum of niches, dead wood may be seen as an ecosystem unto itself. The authors have structured their book to objectively describe such a complex to readers. Dead wood does not harbor a diversity of organisms simply because living trees are less hospitable. Rather, the work of Stokland et al. presents the decay process as an almost evolutionary process in which the unique physical characteristics of each piece of wood coupled with its environment, fungal inoculation, bacterial occupation, and animal degradation lead to each piece being unique habitat for saproxylic species across space and time. From a detailed description of the trajectory of decay and associated organisms that inhabit dead wood along that path, the authors link dead wood diversity with the numerous attributes of dead wood and larger context of stand dynamics and forest management. What about dead branches? Does tree size govern dead wood biodiversity? How can one manage for dead wood? The authors provide ample coverage of these and many other topics to close out their treatise. This work should be accessible to general ecologists, foresters with dead wood interests, mycologists, and entomologists. As such, the book represents “one-stop shopping” for those interested in deadwood and its rich association of organisms. Given the northern European authorship, there is a strong emphasis on those regional ecosystems; however, the authors have included substantial examples/discussion of relevant studies from other continents. Illustrations are judiciously interspersed through the text to reinforce important concepts. Although this work may not constitute primary reading for a general forest ecology course, it should be considered a foundational work to describe the complex of dead wood and associated biodiversity in graduate courses or for professionals seeking to refine their understanding of dead wood ecology. As the authors state at the close of their book, once one reaches the final page there is little possibility to state that dead wood is an indicator of “poor forest health, but quite the opposite.”