ed by Europeans and are indicative of the rapid progress being made in accumulating a data base of physiological characters. The next section emphasises the role of nutrient limitations in controlling carbon allocation and seasonal responses. This is followed by a diverse section with the common thread being the phenology of those plants, whose development is largely seasonal and modulated by the extreme conditions associated with these ecosystems

There are three papers dealing directly with fire, and its pressure on a landscape already damaged and eroded. Here it is particularly interesting to see the analyses which demonstrate that having the ability to resprout after fire damage is not a necessary attribute for continual success, and that obligate seeders can have equal fitness if their input of resources into seeds is sufficient.

The volume is rounded off with articles by Specht, Naveh, and Mooney respectively This may be considered appropriate as each in his way has contributed much to open up the study of Mediterranean ecosystems by the pertinent targetting of concepts, techniques and people. For many decades the phytosociological approach has dominated but now exciting insights are being revealed and new ideas are being built on the original foundations

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Cell to Cell Signals in Plant, Animal and Microbial Symbiosis: edited by S. Scannerini, D. Smith, P. Bonfante and V. G. Pearson, Springer, Berlin, 1988. 414 pp., DM 238.

This is a further volume in the NATO Cell Biology Series and is derived from a Symposium held in Turin in May 1987. Earlier volumes have dealt with recognition in plant–microbial symbiosis, so that the subject matter is not entirely new However, this one ranges much more widely and although six of the twenty-nine papers cover different aspects of nitrogen-fixing symbioses, other papers deal with luminescent bacteria, ectomycorrhiza, lichens, cereal beetles and marine invertebrates There are some very useful reviews, notably that of J A. Callow and his co-workers on molecular signals in plant cell recognition. Recent work on flavonoids as molecular signals in the *Rhizobium*–legume symbiosis carried out in the Netherlands is described by Okker, Lugtenberg and their associates. Some of the chapters are no more than short research papers and personally I could do without them—the extra space could well be given to those writing reviews Nevertheless, this is a welcome addition to the literature on symbiosis and it can be recommended for library purchase

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