

## REVIEW.

**The Primary and Secondary Leaf Bearing Systems of the Eucalypts and Their Silvicultural Significance.** (Commonwealth Forestry Bureau Bulletin No. 18, Canberra 1936). pp. 78. 87 figs. by M. R. JACOBS, Dr.-Ing. B.Sc., Dip. For.

Dr. Jacobs in his introduction to this bulletin states that "a great deal has been previously written on the taxonomic side of the morphology of the leafy shoots of the eucalypts, but very little upon the numerous unusual features about them that have a vital influence upon the production of timber." He modestly claims that his present bulletin describes only such features as the "observer may check for himself with an axe, a knife, and a hand lens."

Dr. Jacobs' axemanship and knifecraft must have the precision of his diction, a qualification in itself sufficient to predispose forester readers in his favour. Any forester who for years has travailed amidst the "great deal that has been previously written on the taxonomic side"—especially when, like the reviewer, his only field material for check purposes has been the eucalypt grown as an exotic from ill-named seed of unauthentic origin—feels that at last "a new planet swims into his ken" long before he completes his first perusal of this bulletin. Macroscopic features of the eucalypt tree, both in bole and in foliage, that one has known for years as deviations from the arboreal orthodoxy of text books, whilst fearing them as symptoms of maladaptation to exotic conditions, are at last explained as normal for the genus. The sequence of growth of crown and bole of eucalypt species is followed with admirable clarity from the starting point of phyllotaxy to the ultimate mature crown. The phenomena of "naked buds," of "concealed buds," of "periodic shoots," of "die-back" (not in the usual sense of a symptom of pathogenic disease), of "leaf-life," and of "branch shed" are described and interpreted to form a picture of a leafy shoot that differs from the shoots of any other tree. The second chapter collects these shoots into a perfect crown differing in structure from all other crowns. The third deals with dormant buds, proventitious shoots, epicormic knobs, and the disastrous effects resulting from the method of branch shed from these knobs. It is then shown that these latter features, instead of being mere aberrancies, are so frequent even under primitive conditions as to be normal for the genus; and the whole work is then rounded off with a very suggestive chapter showing the silvicultural problems arising from the phenomena described. A short bibliography completes the bulletin, which is written throughout in the form of short numbered and titled paragraphs. This method of writing is of great assistance for reference purposes, and is used by Dr. Jacobs very effectively to develop in logical sequence an exposition of many novel

concepts that would have been confusing at first reading, if set out as a running narrative. The plates, particularly the line diagrams with marginal script notes, are excellent.

It is almost invidious to sort out any portion of this work as more interesting than any other; but perhaps for New Zealand readers, the greatest interest lies in the descriptions of the mechanism of branch shed, inasmuch as at least three New Zealand timber species (*kauri*, *tanekaha*, and *silver beech*) have their own remarkably efficient methods of occluding branches. One cannot refrain from adding that the general impression left after careful perusal and reperusal of the book, is that the non-Australian forester who hopes to grow eucalypts in an alien environment for purposes other than mere ornament, round timber, or firewood must be an incurable optimist.

Dr. Jacobs promises a further bulletin to develop the "essential microscopic side of several of the questions." It should be of extreme interest; but it is almost too much to hope that with microtome and microscope he can surpass what he has achieved with axe, knife and hand lens.

C.M.S.

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