

NOTES AND NEWS

FASCIATION OF COASTAL REDWOODS.—Fasciation involves a flattening of the normally cylindrical stem. A fasciated stem is usually much heavier than a normal shoot. The flattened growth is due to the formation of a row of linked meristems, instead of a single one at the apex. It occurs both on conifers and on hardwoods as well as on many other plants. Fasciation has not yet been reported on coastal redwood. Its cause is unknown, and according to my experience of seven years of redwood research I have seen only two cases of this curious phenomenon.



FIG. 1. Fasciation in *Sequoia sempervirens*.

Fasciation is sometimes only of annual duration, some of the terminal buds resume normal shoot growth again the following growing season, but it may continue for longer periods. Fasciation can be due to wound stimulation, possibly as a result of insect attack, or to overnutrition or a disbalance of growth hormones. There is no evidence to support this in the two cases observed in fasciation of coastal redwood. In some cases, it is considered to be genetically controlled by a mutation, which can be propagated vegetatively and which may come true from seed. However, the above two reported cases indicate that only one or two leaders developed such fasciation out of a young growth redwood tree. Another possibility may be to rank it as a pathological curiosity, probably caused by virus infection. It is very rare which is the reason to report it here. The photographs illustrate (fig. 1) this phenomenon on a young growth redwood tree collected January 5, 1966, by Robert J. Wright, Utility Tree Service, Inc., Eureka, California on the

Fickle Hill Road above Arcata, California. The specimen has not been preserved to my knowledge. It is known that the Utility Tree Service, Inc. crews have used herbicides in their program of brush control on power line right-of-ways.

The author is interested in receiving information about any extraordinary or abnormal growth features on coastal redwoods. Any such information should include details about the observed abnormality and should possibly be accompanied with the abnormal specimen itself or a photograph.—RUDOLF W. BECKING, School of Natural Resources, Humboldt State College, Arcata, California.

BACK ISSUES OF MADROÑO.—Back issues of most numbers of Madroño are still available. Some numbers are in short supply. Any surplus copies of any issue of Madroño will be gratefully received by the Corresponding Secretary, Department of Botany, University of California, Berkeley, California 94720.

REVIEWS

Marin Flora. Manual of the Flowering Plants and Ferns of Marin County, California. Second edition with supplement. By JOHN THOMAS HOWELL. University of California Press, Berkeley and Los Angeles, California, vii + 366 pp. 1970. \$10.00.

Since 1949, when the first edition of this book appeared, the population of the ten counties making up the immediate San Francisco Bay Area has approximately tripled to its present level of about five million people. Within the next decade, if present trends continue, there will be about as many people in this single metropolitan area as there were in the entire world at the time of Christ. In view of this, it is extremely fortunate that more than a fifth of the 529 square miles of the lovely Marin County peninsula have been set aside for public enjoyment, the largest segment being the Point Reyes National Seashore of about 53,000 acres which was authorized in 1962. It is likewise fortunate that the University of California Press has added to their extensive publication list of local natural history guides a new version of this delightfully written and scientifically critical flora.

For the most part, the 1970 printing exactly duplicates that of 1949, but with several improvements. The quality of the paper and the binding have been improved greatly and the size of the pages increased slightly, making the type much easier to read. In addition, a 43-page supplement has been added, demonstrating that four genera and 26 species have been added to the indigenous flora of the County, together with 37 genera and 99 species of adventive plants. There are at present 1023 indigenous species and 408 introduced species recorded from the region. Among the attractive features of the original work that have been retained are the 25 black-and-white photographs of Charles H. Townsend, perhaps a third of which (those not on public lands) could not be duplicated today. The maps of localities in Marin County and of trails and localities on Mt. Tamalpais, being larger, are clearer than in the original. The price continues to be reasonable, and there is every reason to expect that *Marin Flora* will continue to enjoy as much popularity in the years to come as it has in the past.—PETER H. RAVEN, Department of Biological Sciences, Stanford University.