The numbers n=12 in the *A. tessellata* group, n=5 in *A. spectabilis*, and n=8 in *A. retrorsa* promise to be distinctive. An intensive program of counts is anticipated in an attempt to understand better the *A. intermedia* group.

Hybridization experiments have shown that, while it is not possible to cross certain species, in other cases hybrids can be obtained between plants of different chromosome number. It is hoped that the cytological behavior of such hybrids, several of which are being grown in the department greenhouse, will shed light on the significance of the chromosome differences we have found.

The author wishes to express his appreciation to Dr. Herbert L. Mason, under whose direction this work was undertaken.

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REVIEWS

A Flora of Santa Barbara, an Annotated Catalogue of the Native and Naturalized Plants of Santa Barbara, California, and Vicinity. By CLIFTON F. SMITH. 100 pp., 6 black and white photographs. 1952. Santa Barbara Botanic Garden. $1.50.

Because of the unique situation of Santa Barbara on California's somewhat nebulous Mason-Dixon line where northern and southern California meet, this annotated list is of far more interest than it might be solely on the bases of its relative completeness, the broad range of habitats represented, and the care with which the author has handled the binomials in the systematic list. Furthermore, Santa Barbara has been a favored collecting area for more than a century, and hence the source of type material collected by Douglas, Nuttall, Gambel, Parry, Brewer, Torrey, Rothrock, Plummer, Cooper, Yates, Elmer, and many others. Their activities in this area are briefly chronicled by Smith. No similar local flora is available for any other section of this boundary area, although it is understood that similar efforts are in progress for all or parts of San Luis Obispo and Ventura counties.

Mr. Smith's area lies for some twenty-five miles along the coastal side of the east-west Santa Ynez Mountains, extending from ocean to crest in an altitudinal range of nearly 4000 feet within a distance of three to six miles. The vegetation consists predominantly of chaparral, with woodland or woodland-grassland in the canyons and on the upper part of the coastal plain. In addition, there are such special habitats as sandy beaches, salt marshes, vernal pools, cliffs, and deposits of diatomaceous earth. There is a high content of introduced species in the herbaceous vegetation at the lower altitudes.

From these diverse environments there has been painstakingly assembled an imposing list of 1018 species (plus 148 varieties and forms), comprising 626 indigenous species and 392 introduced; 173 cultivated escapes are additionally noted. Each inclusion is supported by a cited collection or occasionally by a reference to literature. Most of the collections are the author's and are deposited in the Herbarium of the Santa Barbara Botanic Garden.

The best-represented families appear to be Compositae (148 taxa), Gramineae (102), Leguminosae (67), Cruciferae (40), and Scrophulariaceae (38). Among the largest genera are *Bromus, Lotus, Lupinus, Trifolium, Solanum, Atriplex, Juncus, Carex,* and *Gnaphalium;* in several instances introduced species contribute significantly to the number of species. The conspicuous woody vegetation is represented by rather few genera and species; only two gymnosperms, *Pinus Coulteri* and *Pseudotsuga macrocarpa,* are listed.

From the artistic line-drawing of *Platanus* foliage and fruit on the paper cover, through the handsome full-page photographs of characteristic habitats to the useful gazetteer and the index, this little volume is attractive and thoroughly admirable. Its author is to be congratulated on his meticulously thorough study, and the Santa Barbara Botanic Garden for recognizing the merits of his work and presenting it in such a handsome guise. LINCOLN CONSTANCE, Department of Botany, University of California, Berkeley.

Native Orchids of North America. By DONOVAN STEWART CORRELL. xvi + 400 pages, 146 + 4 plates. 1950. Waltham, Massachusetts: Chronica Botanica Co.; San Francisco: J. W. Stacey, Inc. $7.50.

Orchids have always had a fascination for scientist and layman alike. The amazing complexity of the flower forms tests the skill of the most competent taxonomist, and their weird beauty and difficulty of cultivation attract and challenge the grower.

In this country orchid cultivation has confined itself, with a few notable exceptions, to the exotic forms. Indeed, many orchid growers are unaware of the native species. This is