

NATURE RAMBLINGS

by Frank Thone

BOTANY



Exotics as State Flowers

MANY OF OUR states have chosen as their official floral emblems plants that are not native to this country at all.

The *Journal of the New York Botanical Garden* has listed all the state flowers of the United States and its territories, and a survey of the list shows that twelve of them, representing an even fourth of the states, are flowers from foreign lands. Yet it would not do to condemn them for that reason, for these flowers are foreigners only as much as we ourselves are: they were transplanted from the European homelands of our forefathers; if they did not come in the Mayflower they certainly followed close upon the heels of the Pilgrims.

Some of these alien state flowers have a claim based upon their usefulness or value as well as their beauty. Such for example are the apple blossom, chosen by Michigan and Arkansas, and the peach, Delaware's state flower. Both these trees are native to Asia, and were cultivated in Europe for many centuries before America was discovered. Florida's orange also is Asiatic, and came to this country by way of southern Europe. Vermont, populated by practical Yankees, chose the red clover of its hayfields, a plant of European origin.

Other flowers do not have this economic appeal, but are old-time favorites that have lived long in our ancestral American gardens, or have even made their way into the wild plant population of the countryside. Most conspicuous among such cases, probably, is the Cherokee rose, famous as Georgia's state flower. Although a native of China, it has become so thoroughly Americanized that it has even adopted an Indian name. It was naturalized in Georgia so

early that its first formal botanical description, a hundred years ago, was from specimens collected in that state, and not in its native land.

New York chose simply "the rose," presumably the cultivated double flower which is a hybrid between European and Asiatic roses. Iowa and North Dakota have also chosen roses as their state flowers, but they definitely specify the native wild roses of their prairies.

New Hampshire has shown that practical New Englanders can be a bit sentimental, too, by making the Old-World purple lilac their state emblem. Another old-fashioned flower was chosen by Indiana, the zinnia. This, unlike most of the other exotic species, is native to the New World, being a Mexican species. Ohio has the red carnation, favorite of the martyred President McKinley.

North Carolina's flower is a weed, the ox-eye daisy, native of Europe. Maryland also chose a flower often classed as a weed, the black-eyed Susan. This plant is a native American species, but is not native to Maryland, having been introduced from its home prairies of the West.

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BOTANY

Heated Seeds Produce Freaks

E VOLUTION by jumps, or mutation, can be brought about not only by the action of radium and X-rays upon seeds and eggs, but also by the prolonged exposure of seeds to high temperature.

Prof. M. Navashin, together with P. Shkvarnikov of the Timiriazev Biological Institute in Moscow, describe in *Nature* how seeds were enclosed in a closed bottle, kept for twenty days or more at a temperature of 131 degrees Fahrenheit and afterwards allowed to germinate.

Most of the seedlings produced were abnormal, the development of both roots and leaves being affected, and many did not survive. A considerable number of the surviving young plants displayed various abnormalities of leaf shape. A microscopic examination of the root tips showed that the chromosomes—minute rod-like bodies believed to be responsible for the inheritance of characters in both plants and animals—had been badly disarranged from their normal positions.

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