



SOME NATIVE PLANTS OF WIDE DISTRIBUTION

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After five weeks of collecting along the 100th meridian from the Rio Grande to the Pacific, in Mexico, it became impressed forcibly upon my mind that some plants are so constituted in their metabolism, anatomy or otherwise, as to enable them not only to survive, but to thrive and multiply under very diverse conditions of soil, moisture, temperature, altitude and latitude. In fact some plants seem to be able to adapt themselves to almost any kind of habitat.

Whatever there is in the makeup of a plant that enables it to adapt itself to such adverse conditions, is not my purpose to discuss. How they became so widely distributed can be conjectured with a fair degree of certainty. Of course we can not always be sure whether a plant is indigenous or has been introduced in a country that has been inhabited by man of some degree of civilization over a long period of years, as is the case of the Southwestern United States and Mexico. However this may be, the fact remains that some plants have become widely distributed and are able to survive under very adverse conditions.

The facts as to how a species came to be existent in any particular locality can not be known with certainty and I shall suggest such possibilities as seem reasonable to me. The following remarks will be confined to a few plants indigenous to Oklahoma which I have collected in southern Canada, various parts of the United States and, more especially, in the more remote regions of Mexico.

Ptelea trifoliata L. is a small tree or shrub that is quite variable in its morphology but whose variants never offer any constant characters which would warrant segregation into a well defined species. It is able to survive in various types of soil—most usually it is found in rocky situations—and under various degrees of moisture and temperature. The plant is found in the wild state from Long Island westward through New York, Ontario, Michigan, Minnesota, to Colorado and northern California, thence southward to the gulf states and throughout Mexico to the state of Oaxaca. Its dispersion has, in all probabilities, been brought about by natural means, since its economic importance is too small to have led to a distribution by man, and an accidental dispersal seems improbable.

Nothoscordum divalve (L.) Britt. is a small bulbous herb of the Lily family and is quite constant in its characters. It is usually found in the open woods or on prairies from Virginia, the Great Lakes region to Nebraska and southward to the Gulf of Mexico. I collected many fine specimens of this plant on the open plains southeast of Puebla, Mexico,

which is on the Pacific side of the continental divide. Its transportation to this locality has evidently been due to man since no specimens were observed elsewhere south of the Rio Grande.

Gaura coccinea Pursh., a member of the Evening Primrose family, is a rather small perennial herb that is usually suffrutescent in the warmer regions and fairly constant in characters except for the coloration of the flowers which vary from white to scarlet. It does well on various types of soil and is tolerant to various amounts of moisture. It is found from the province of Manitoba southward through the plains region to the Gulf, southwestward across the continent to southern California, thence into Mexico where it extends southward to the Valley of Mexico. It was found, by the author, growing abundantly on the plains of southern Puebla and probably extends much farther to the south. The distribution seems to be due to natural agencies, although it may have been scattered as an impurity in the seeds of agricultural crops.

Prosopis juliflora D. C. The Mesquite is almost synonymous for the woody flora of the Southwest. It ranges in size from a small tree to a dwarfed shrub. It is very variable in form and several varieties have been proposed, two of which, *velutina* and *glandulosa*, are often described in botanical literature. It is able to survive in almost all types of soil, although it does best on bottom lands, and under all degrees of moisture. It is very useful to the people of the Southwest and many pages could be written on its economic value. The land of its origin doubtless is Mexico, though the type specimen is from Jamaica. It is found from western Louisiana to Kansas, Colorado, through New Mexico and Arizona to Death Valley in California, thence southward through Mexico, Central America, most of South America and the West Indies. We know that this plant has been introduced into many localities where it has escaped and become naturalized. I am told by old settlers in east Texas that they remember when Mesquite was not known in that country and that it was brought in from Mexico by the cattle which are very fond of the ripened beans. This is quite possible as I have observed similar scattering in western Oklahoma. While we know that much of the distribution of this plant is due to man, it is also quite evident that it has been widely spread by natural means.

Achillea millefolium L. This perennial herb is one of the most widely distributed species of the northern hemisphere. Its characters are fairly constant; yet it exhibits considerable variation in pubescence and color of the rays which are usually white but sometimes pink, red or purple. It grows equally well in woods, open prairies or plains, at sea level or at high altitudes, in cold regions or in lands with torrid climates, and from semi-arid plains to wet mountain valleys. It is found native throughout the northern continents and extends southward, in most cases to the subtropical regions. I did not observe specimens of this plant in northern Mexico but found it quite common in the mountains southwest of Mexico City. Its wide distribution doubtless is natural and in all probability occurred in the remote past.

Pteris aquilinum L. This perennial Pteridophyte is a fitting selection to close such a discussion. It has been existent upon the earth for ages and is still one of the most common plants. Although it varies considerably, its leading characters are so constant that little grounds for subdivision are evident. It does well on open sandy sea shores or in dense forests of high mountains, thus being quite tolerant to a wide variation of soil, temperature, altitude and moisture. I have collected it on both the Atlantic and Pacific seaboard, in the mountains and lowlands of the interior regions of the United States, Canada and Mexico. It is

one of the most widely distributed plants on the face of the earth. While its occurrence is not continuous, the sun never sets on its abode and the wiry fronds wave in the night winds beneath the Southern Cross as well as beneath the Great Bear. It has been collected in the wilds of England, Scotland, all of continental Europe, Asia, Ceylon, East and West Indies, Central and South America and New Zealand. I have found it growing very abundantly beneath the pines in the high mountains of Morelos. Its distribution is natural without doubt and probably is accomplished by both wind and water. The Bracken Fern is one plant that has gone many places and made itself at home after its arrival.

