

## VARIED LUPINES NOW BLOOMING IN GARDENS AND WILDS

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If any reader of FIELD MUSEUM NEWS doesn't know the common wild lupine or "sun-dial" that often covers rods of sandy or loose soils to form blotches of blue color in late May or early June he may acquaint himself with it easily by turning to page 16 of the Museum's Botany Leaflet No. 8. There this wild flower of the Chicago region—not infrequent in gardens—is illustrated. The chances are, however, that one would scarcely recognize as lupines some of the species that grow not far below the crests of the Andes in Peru. Elevations around 15,000 feet seem amazing for any flowering plant to attain until one remembers that in Peru the proximity of the equator results in a much higher temperature at greater altitudes than is the case in the temperate zones.

Even so, the lupines of the high *puna*, as a wet turf-like terrain in the Andes is sometimes called, are depressed little shrubs forming mats from which the stalks of the well-known pea-like flowers raise themselves scarcely an inch, or at most a few inches, and then rarely erectly. Much more characteristic, and among the most beautiful species, are those of alpine basins or meadows at slightly lower elevations, but unlike the common or garden varieties they grow in scattered clumps, one plant sometimes as big around as a tub, the thick flowering stems arising directly from among many long-stalked leaves, closely clustered on the crown of the perennial root. The spikes of flowers of lupines of this type are often raised a foot or two above the leaves and may be as big around as a beer bottle, so closely are the tinted or bright-colored blue, or bright blue and white, or partly yellow flowers crowded upon their fleshy central stalks!

How truly decorative these huge plants are, set here and there on stony grassy alpine slopes on which they are apt to be by far the largest vegetation! Their only

competitors, so to speak, are an occasional bunch of grass, little tufted composites, loco weeds, drabas or other similar low-growing alpines with which rock-gardeners like to experiment. In the sunlight or early morning as the growing warmth of day sends wisps of fog up and around the little valleys in which these lupines grow, the heavy moisture of night (often at this alti-



"SUN-DIAL" OR COMMON WILD LUPINE

This species is common in Chicago Area woodlands.

tude congealing as frost) clings to the hair that commonly covers the stalks of leaves and flowers and glistens as the plants are moved delicately by air-currents caused by the rapid local changes in temperature. In such a landscape grew the *Lupinus Fieldii* which was discovered on one of the expeditions sponsored by Mr. Marshall Field. It has a wand-like stalk of flowers in pastel shades of pink and blue.

#### SOME ARE SMALL TREES

No less interesting and beautiful are the lupines of the western part of the United States where, as in Peru, one species or another is found from sea-level to the higher mountain slopes and where they display, if not the same, nearly as great diversity in habit and in manner of growth. Great areas of semi-desert lands in spring are evanescently colored when the closely crowded thousands of plants of the little annual lupines like "blue bonnets" (the state flower

of Texas) are in bloom, although each plant is only a few inches high and has only a few bright blue flowers. In a short time these hordes of plants have disappeared completely. On the other hand, mostly in regions of considerable rain as on the higher hills and mountain slopes, lupines are often shrubs or even small trees with the trunk well defined. The leaves, especially of the shrubby species, are apt to be silvery, at least on one surface, from the close covering of silky hairs which enhances the beauty of the foliage. The leaves of all species are divided into several leaflets that spread like the spokes of a wheel during the day, but at night droop around the stalk, or more or less close together vertically. From this characteristic the plants are known in some regions as "sun-dials." Perhaps this movement of the leaflets protects the species of high elevations from the too heavy dew or frost of night, and those of lower altitudes from excessive rain or evaporation.

#### MANY KINDS IN CALIFORNIA

There are more kinds of lupines in California and in Peru than anywhere else—in Peru alone botanists have described upwards of a hundred species—and yet only about twenty have been recorded as having been in cultivation and many of these are rarely seen. Obviously these lovely plants, so diversified and easy to grow, deserve greater propagation. Some of the semi-desert perennials would be suitable where water is at a premium, and the range of color is from shades of blue or purple to white and golden yellow. Among the cultivated species is a yellow one from southern Europe and a tall strict-stemmed one from the Andes with blue and white flowers, the banner with a yellow spot in the center. This attractive species (*Lupinus mutabilis*) is of further interest because in Peru it is grown as a field crop for the bean-like seeds that are commonly used for food. There are two forms—one produces seeds that are glossy jet-black; those of the other form are snow-white. The latter are attractive "beans," sold in the markets as "chochos."

#### SOURCE OF A POISON

The water in which they are soaked for cooking is used as an insecticide and fish poison. In spite of the origin of the Latin name *Lupinus* from the word for wolf, in allusion to a classical superstition that a crop of lupines destroys the fertility of the soil, the contrary is true of lupines as of other leguminous plants. The white lupine of Asia is a well-known cover crop for poor soils, and it is often plowed under in order to increase fertility. Sometimes it is harvested as a valuable fodder plant.

#### Opal's Colors an Illusion

The brilliant colors of the opal belie the true nature of the stone, which is colorless; they are the effect of a platy structure. This breaks up white light into its component spectral colors in the same way a prism does.





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