

Desert Plants

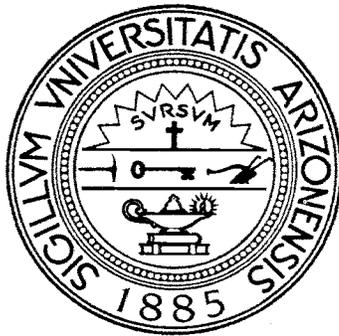
A quarterly journal devoted to broadening knowledge of plants indigenous or adaptable to arid and sub-arid regions, to studying the growth thereof and to encouraging an appreciation of these as valued components of the landscape.

Frank S. Crosswhite, editor

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Editorial

Life Forms of Desert Plants. With this issue we present an illustrated classification of the life forms of Sonoran Desert seed plants. These "life forms" are actually much more than the simple hodge-podge of shapes and structures that they might at first appear. In reality they represent important "ways of living" which we might term *strategies for survival*. In a world too often filled with pessimism, our minds too frequently are flooded with talk of economic uncertainties, sinking water tables, escalating utility rates, possible oil embargos, and fear of "The Day After." But a consideration of desert life forms speaks to us only of optimism. We dare our subscribers to read the following article and feel anything other than a sheer sense of exhilaration for the triumph of the various life forms over the harsh and rigorous hazards that they have faced.

Not only have plants been able to adapt to the Sonoran Desert, but they have found at least 29 major ways to do so! We are only now beginning to scratch the surface in understanding how these life forms function. We have thus far significantly exploited only two or three such life forms for food, fiber, energy and other useful goods. True, many of the other life forms have been utilized in some way by Indians and early settlers. But the fantastic germplasm of most life forms has not been manipulated in the slightest by plant scientists! And even beyond what nature has provided in Sonoran Desert

germplasm, we have the distinct opportunity of breeding new life form characteristics into already established crop plants originating outside of the desert!

By eventually understanding the successful "ways of living" of plants in the desert we will have a much firmer basis for genetic engineering than would have otherwise been possible. A platycaulescent shrubby stem succulent can produce large quantities of sugar and biomass under agriculturally unfavorable conditions. Although we may not particularly like the biomass that any one species in this life form produces, we need to look beyond species to the life form itself,—there would seem to be no reason why we should not manipulate the life form to produce something which we do want!

The few life forms which we fully exploit today happen to be ones which our agricultural ancestors domesticated (mostly in temperate regions) in the dim and distant past. Although the plants of the Sonoran Desert have existed for millenia, it is our present generation and those of the future which will bring an appropriate blend of technology and understanding to bear on the fascinating possibilities of obtaining good from these fantastic life forms! This originally was, and continues to be, the most basic goal of the Boyce Thompson Southwestern Arboretum.