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GARDENING WITH WILDFLOWERS—THE ANSWER TO HOT DRY CONDITIONS—LITTLE WATER?

The recent drought in southern Australia has awakened many gardeners to the problems that they must face in future as water for gardening is regulated. Is it necessary to grow exotics of other lands that demand considerable attention and regular watering? Of course it is, but . . . there are many Australian wildflowers that are just as spectacular and suitable for an exotic garden, which over the ages have become adapted to our natural climatic conditions. With the same garden sense that is given freely to exotics, our own natives are quite adaptable and in most cases easier to cultivate. Aspects to be considered are: 1. Selection of the right plants; 2. Preparation of the garden and 3. the care of the plants. Our No. 33 issue examined the problems to be considered in the preparation of the garden and in this issue aspects of ground cover and mulching continue this treatment (Garden Preparation, pp. 313; Mulching, pp. 314). It is proposed to devote an issue to the whole problem of creating a garden that will not only survive but thrive under the conditions experienced in the recent drought. In many parts of the country this problem is always with the farmer's wife who strives against odds to produce a flower garden.

Will readers please contribute any articles, notes or observations that will help me produce the issue?

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WEST AUSTRALIAN PLANTS

This book lists all the wildflowers indigenous to Western Australia giving for each species, kind of plant, general size, flower colour, flowering months and localities. Price \$1.20 plus 20c postage and pack.

TINY PLANTS THAT PREY ON LIVING CREATURES

by Rica Erickson

These plants are fully described by the author in her book "Plants of Prey", see the book review on page no. 302. "Australian Carnivorous Plants" on page 319 of *Australian Plants* issue no. 27 introduces the subject and follows with descriptions of the "pitcher" type and the "passive fly-trap" type of insect traps. The following article describes the "active fly-paper" type traps represented by the "Sundew", *Drosera*. Plants using the suction type trap are described on page no. 282.

Drosera, meaning "dewy" is the botanical name of the "sundews". Small plants with shining five-petalled flowers but more widely known for their leaves. The upper surfaces of the leaves are covered with fine hairy tentacles tipped with sticky red glands. It is these tentacles, glistening in the sun that make one stop, look and wonder. "Sundews" are among the most beautiful and delicate of our wildflowers and will be of special interest to the gardener interested in miniature plants.

Trapped! An insect caught on one of the sticky tentacles causes the tentacle to bend and enfold it. In the meantime an impulse is conveyed to its neighbouring tentacles causing them to bend over to complete the capture. Over a period of days the soluble matter of the prey is reduced to a fluid and absorbed by the plant. It is thought that this diet only supplements the food the plant takes up from its roots.

The plants range from tiny rosetted forms to but none are large. However some are climbers to six feet. They are more easily identified by grouping in accordance with their habit of growth as follows:

- (a) "Pygmy Sundews", described below.
- (b) "Rosetted Sundews", larger bulbous-rooted plants, with flat rosettes of leaves, the leaf stalk of which can scarcely be distinguished from the blades—8 species, three occurring in the east, *D. whittakerii* with flowers larger than the leaves, *D. spatulata* and *D. lovellae*, the latter also being classified as a pygmy sundew.
- (c) "Fan-leaved Sundews", usually erect plants with fan-shaped leaves scattered along the stem and clasping it. All three species, *D. stolonifera*, *D. platypoda* and *D. ramellosa* are from W.A.
- (d) "Rainbow Sundews", erect or climbing plants with cupped leaves on very slender stalks, often in groups of three. Of the 18 species three occur in the east, *D. planchonii* (leaves rounded without pointed lobes) and *D. peltata* (greenish leaves) and *D. auriculata* (reddish leaves) with two long pointed lobes.
- (e) "Narrow-leaved Sundews", plants with erect, long narrow leaves. Both species are from eastern Australia, *D. arcturii* with simple, strap-like leaves and *D. binata* with forked very narrow long leaves.

PYGMY SUNDEWS

In the *Drosera* family there is a typically Australian group of miniature plants which I have designated as Pygmy Sundews, from their prototype *Drosera pygmaea*, the Eastern Australian species. Many of them are minute plants. All of them have very small leaves on slender stalks arranged in rather dense rosettes. Unlike other *Drosera* they are not bulbous but have fine fibrous roots.

Another characteristic is the tuft of shining transparent stipules at the heart of the tiny leaf rosette. A stipule occurs at the base of each leaf and is bristly, or scarcely divided, in varying degrees according to the species. In pressed material in herbaria the stipules are well preserved while often the minute and very delicate floral parts are spoilt or missing. Although minute, these stipules can be a dependable guide to the identity of many of the species, but in others the difficulty in describing the form of the stipule has led to confusion. It is for this reason that sketches of these parts of the plants are included along with their floral details.

The flowers of pygmy sundews are extremely beautiful but are rarely appreciated until seen under a good magnifying lens. They fade almost immediately when picked and the petals bruise almost beyond recall at the slightest touch. So if you would enjoy their frail beauty to the fullest you must preface kneel to to inspect them in their own environment.

Australian Sundews were much admired by the first settlers and many were soon collected for botanists overseas, but perhaps there was no one more appreciative of their beauty and interest than a certain dour-faced Scot, James Drummond, the first Government Botanist in the colony of Western Australia. In the old world *Drosera* are usually associated with bogs and it was assumed by the botanists there that Australian *Drosera* frequented the same habitat. In 1839 Dr. Lindley, an eminent English botanist published an account of the Swan River plants in which he remarked "If there were no other evidence of the springy nature of the soil at Swan River, the abundance of (*Drosera*) would attest it."

Drummond was quick to refute this, stating that "three-quarters of our species grow in the most arid spots of this arid country, (and) are found on the dry stony hills and the dry pasture land of the colony . . . The bulbous rooted species . . . appear above ground only from May to October when the ground is moist, but there are small fibrous rooted plants that grow in the most arid situations of our ironstone gravelly hills and with their curious glandular, apparently dew-covered leaves bid defiance to the sun in all his strength. I have often knelt down to admire the beautiful, scarlet, satiny-looking flowers of these plants when the soil in which they were growing was so hot that I could scarcely bear my hands upon it."

The pygmy sundews pictured in the accompanying illustration represent the red-flowered members of the group, and it will be seen that two of them have pink-flowering forms as well. A key to species is:

Calyces covered with long, red, woolly hairs.	
Leaves narrow elliptic, stigmas slender	<i>D. drummondi</i>
Leaves round, stigmas club-tipped	<i>D. sewelliae</i>
Calyces smooth or with short glandular hairs.	
Stigmas clubbed	<i>D. platystigma</i>
Stigmas slender, simple.	
Flowers rather conspicuous.	
Fringes of stipules all bristly and hairy	<i>D. leucablasta</i>
Fringes of stipules scarcely bristly	<i>D. mimata</i>
Flowers small, stipules scarcely bristly	<i>D. pulchella</i>
Stigmas forked, stipules inconspicuous or absent	<i>D. glanduligera</i>

There are approximately 17 specimens of Pygmy Sundews, fourteen of which are confined to south-western Australia. There are specimens assigned to *Drosera leucablasta* and *D. miniata* which present problems of identification and it is believed that several unnamed species are involved.

