

17th April, 1963

Mr. Percy C. Everett, Superintendent
Rancho Santa Ana Botanic Garden
1500 North College Avenue
Claremont, California, U. S. A.

Dear Mr. Everett:

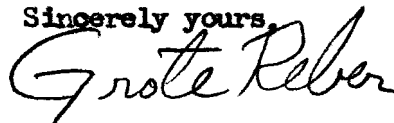
Autumn has now arrived and my *Brodiaea volubilis* have completed one year's growth. The single cylindrical shoots grew variously from four to nine inches high in a moderately shady place. They were kept damp by frequent small watering. Even so, about February they began to turn yellow at the tips and wither. Now, all have completely dried out. Upon sifting the soil, I find that each shoot produced one bulb about a quarter to a half an inch below the surface. The bulb has a shape similar to a tulip; height about $1/8$ inch and diameter $3/32$ inch. The root seems to be about two inches long. Next year I expect to plant these bulbs and hope they will grow again to larger size.

In the mean time, perhaps you could do part of the experiment I'm interested. Your letter of the 16th January indicates the bulbs were beginning to show growth. By now, they may be sending up the flowering stalk. If so, please select a few stalks and lightly tie them to the support in such a manner that some go to left and some to right of support. If it is touch that determines the direction, the stalks will continue in direction started. If some strongly in-built mechanism controls the direction, a few of stalks will change direction above the tie point and go their own way.

If touch controls the direction, the initial touch may permanently fix direction, or; after a few turns around the support a reverse of touch may reverse direction of top part of stalk. Perhaps some stalks are already started upward. If so, a few might have their direction arbitrarily reversed to see if they will continue as directed or insist upon their original direction.

Your comments and suggestions will be appreciated by me.

Sincerely yours,



Grote Reber