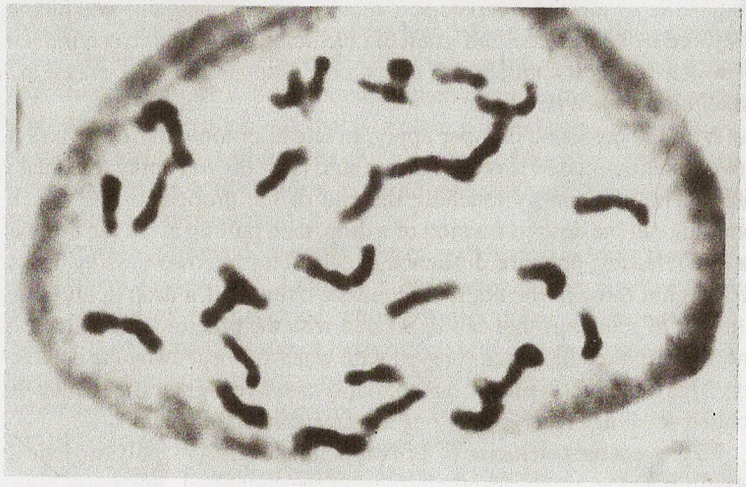
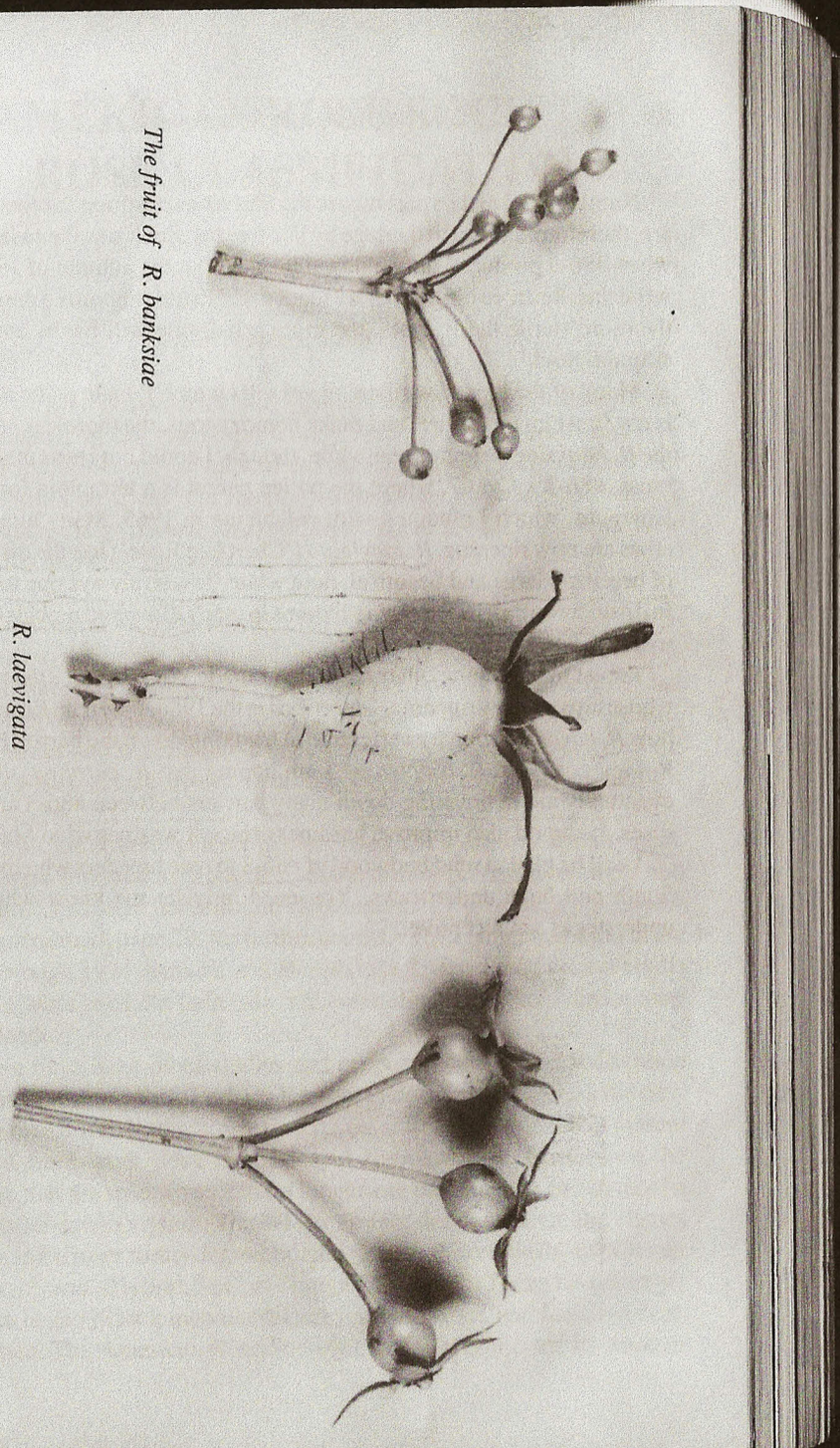
In early spring, the treated seedlings are moved outside to the nursery where they are mulched and watered through the summer. In early autumn, they are examined for signs of chromosome doubling. Even before the plants have bloomed, evidence is found in the gigas characteristics of mature foliage. The leaflets are usually a little larger and thicker than comparable diploid leaflets not affected by the colchicine. This comparison of thickness is made by simply feeling the leaflets between the thumb and forefinger. Leaflets with doubled chromosomes may also be a little darker green and have a crinkled appearance. The midrib of the leaf is usually a little broader and sometimes shows a little tortuosity.

In early autumn of 1985, I tagged three of the crosses as being likely candidates for having a tetraploid branch. One of these plants died that winter, but the other two are thriving today—three plants of each having been budded off onto the understock *Fortuniana*. I focus on one of these, bearing #86-3, as being distinctly superior to the other.

A microscopic search showed only tetraploid cells in the meristem tissue of the selected branch of #86-3, suggesting that this entire branch might have grown from a single, colchicine-doubled cell in the tiny original seedling. If this is true, it suggests that the above technique for using colchicine may be valuable for avoiding chimeras.



The 28 somatic chromosomes of the amphidiploid #86-3. Photo by Kenneth Hignight, using shooting tips.



The fruit of R. banksiae R. laevigata amphidiploid #86-3 Photo by Glen Johnson.