MONKEY FLOWER (*MIMULUS*) HYBRIDIZATION AND SELECTION

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1. Background:

The shrubby, perennial species of *Mimulus* (Scrophulariaceae) have great potential as landscape plants for a wide range of semi-arid climates and landscape situations. They could prove useful as moderate-water bedding plants and landscape perennials, colorful nursery container plants, slope covering and stabilizing plants, and candidates for inclusion in hydroseeding seed mixes. Known commonly as "monkey flowers," they offer showy flowers in a variety of colors, a long bloom season, easy culture, easy propagation from seed and cuttings, and moderate water requirements. David Verity at UCLA made hybrids in past years and supplied the U.C.R. Botanic Gardens with seed of 30 hybrid families to use in our work.

2. Goals:

The goal of the project is to continue hybridizing and selecting the Verity hybrid *mimulus* to develop plants with bushy habit, larger flowers, improved flower color, longer bloom period, improved heat tolerance, improved disease resistance in the landscape and ability to withstand summer watering. We will select types that show resistance to damping-off disease in the seed bed, that propagate readily, that make healthier container stock, and that are longer-lived under moderate summer irrigation programs. Also, by successive selfings of selected cultivars, we hope to produce seed that breeds "true" for the same desirable characters. A grant from the California Association of Nurserymen supports this project.

3. Progress:

We germinated seed of many of David Verity's 30 hybrid families and seedlings were transplanted to a field on the Agricultural Experiment Station in May, 1989. Plants were furrow irrigated once a week for 24 hours, which supplied about 2 in. of water each week until they were established. Cuttings of plants with desirable foliage and flower characters were taken for propagation and then planted out in separate plots to test both for drought tolerance and for ability to withstand summer watering. The selections were also propagated to test in container stock conditions and planted out into several garden situations to test their landscape adaptability. The same selections were selfed to produce seed for planting this fall and re-selection spring of 1994. Propagation and selection of the original selections continues.

SAGE (*SALVIA*) SELECTION AND TESTING

There are over 900 species of *Salvia* (Lamiaceae or Labiatae), native to both the New and Old World. The genus includes the sage of culinary use (*Salvia officinalis*), scarlet sage (*Salvia splendens*) and mealy cup sage (*Salvia farinacea*) used as bedding plants, and numerous sages are important components of our native Chaparral, Coastal Sage Scrub and other Plant Communities. They vary greatly in their habit, foliage scent, flower form and color, uses, climate adaptability and horticultural potential.

In 1984, the Botanic Gardens received a 3-year grant from the Elenia Slosson Foundation to study various species of *Salvia* for their drought tolerance in garden situations. Since that study, the Gardens has continued collecting and testing *Salvia* species and selections for their adaptability and value in Inland Southern California Gardens. The plants come from many sources, including seed lists of other Botanic Gardens around the world and collecting trips to Mexico by Andy C. Sanders (UCR Herbarium), Steve Morgan (UCR Botanic Gardens) and others. To date, the Botanic Gardens has more than 50 species of *Salvia* planted out in their collection and many more in propagation for testing. The project is ongoing and more species and selections are added each year.

48