



RUELLIA: NEW COLORS AND NON-INVASIVE CULTIVARS FOR AN OUTSTANDING LANDSCAPE PLANT By Rosanna Freyre

For growers in the southern United States, Mexican petunia (*Ruellia*) is a staple landscape plant that consistently performs well in both wet and dry conditions in the summer heat. Sometimes, the plant has performed “too well,” leading to invasiveness problems. My specialty is breeding ornamental plants at the University of Florida in Gainesville, with a focus on new colors and non-invasive cultivars of *Ruellia*. Here are answers to 10 key questions about *Ruellia* for existing or new growers of this crop:

THE COMMON NAME IS MEXICAN PETUNIA. IS IT REALLY A PETUNIA?

Common names for *Ruellia* are Mexican petunia, Mexican bluebell, and Britton’s petunia (Figure 1). However, this plant is not related to petunia at all. *Ruellia* belongs to the plant family Acanthaceae, whereas petunia is in the Solanaceae family. Petunia is more closely related to a potato than to *Ruellia*!



Figure 1. Mexican Petunia.

RUELLIA BRITTONIANA, RUELLIA TWEEDIANA, RUELLIA COERULEA, RUELLIA SIMPLEX. . . WHY ARE THERE SO MANY NAMES FOR RUELLIA?

All of these names are scientific names that were used over time by different plant taxonomist to describe Mexican petunia, and all are now considered synonyms for the same species. The first name that was ever used was *Ruellia simplex*, which described *Ruellia* plants found in Cuba in 1870. For that reason this name is considered to have priority, and is now used in all scientific literature. Scientific names are usually written in italics or underlined, while common names are not. The first name is the name of the genus, which is more encompassing, and the second name is the species, which groups plants that have the same morphological and genetic characteristics.

WHERE DOES RUELLIA COME FROM?

The genus *Ruellia* is very large and has worldwide distribution. It groups about 250 different species, including trees, shrubs, and herbaceous plants. *Ruellia simplex* is found in sunny areas on periodically inundated soils in Mexico, the Antilles, western Bolivia, southwestern Brazil, Paraguay, Uruguay, and northeastern Argentina. It was introduced to Florida sometime in the 1940s, and since then has naturalized in disturbed uplands and wetlands of eight U.S. states (Florida, Georgia, South Carolina, Alabama, Mississippi, Louisiana, Texas, and Hawaii) plus the Virgin Islands and Puerto Rico.

ARE THERE ANY SPECIES OF RUELLIA NATIVE TO THE U.S.?

There are 15 U.S. species listed, and 6 of them are restricted to Texas. Detailed species distribution maps can be found at <http://www.bonap.org>. All of them are small, herbaceous plants found in prairies and wooded areas. The most widespread species are *Ruellia humilis*, *Ruellia strepens*, and *Ruellia caroliniensis*, which can be found in most of the eastern half of the U.S. *Ruellia humilis* (Figure 2) is known as hairy wild petunia, and its overall appearance resembles cultivated petunias. Most of the species have light lavender to light purple flowers. Although most species are quite adaptable and can tolerate full or partial sun, moist to dry conditions, and practically any kind of soil, in garden situations they usually can’t compete with taller, more aggressive plants.



Figure 2. *Ruellia humilis*.
Photo copyright by John Hilty, 2013.

CAN RUELLIA SIMPLEX HYBRIDIZE WITH NATIVE RUELLIA SPECIES?

In the 1970s Dr. Robert Long at the University of South Florida did a lot of research on hybridizing different *Ruellia* species. However there is not much information on the viability or morphology of any hybrids produced. Also, for some time Plant Delights Nursery carried *Ruellia* ‘Oh what a feeling’, which was a sterile, presumably interspecific hybrid. I have been successful at hybridizing *R. caroliniensis* x *R. simplex*, when *R. caroliniensis* is used as the female parent. These hybrids were sterile but not very attractive, and had very weak and slow growth. The good news is that presumably wild populations of *R. caroliniensis* would not interbreed with *R. simplex* grown near them.

WHY USE RUELLIA IN THE LANDSCAPE?

Ruellia simplex is very adaptable to most garden conditions, from very dry to aquatic. It flowers profusely, from spring to fall, and as a bonus, *Ruellia* flowers are attractive to hummingbirds, butterflies, and bees (Figure 3). Note, though, that each flower lasts only one day and in very hot days they drop by mid-afternoon. In the garden, *Ruellia* plants are not susceptible to any particular disease or pest, but can get spider mites, mealy bugs, and white fly in the greenhouse.

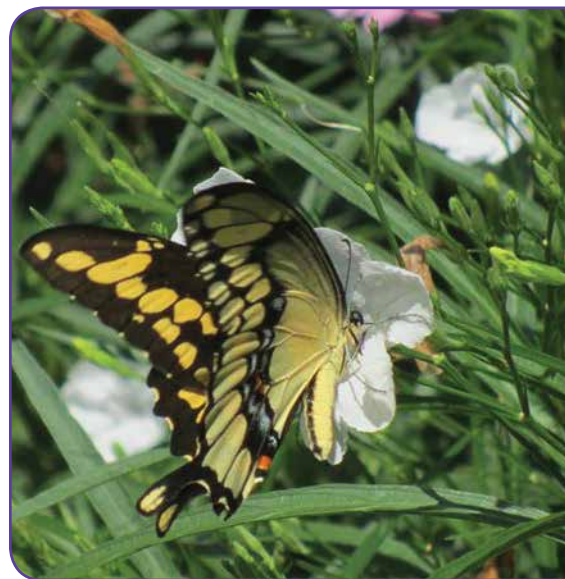


Figure 3. Eastern swallowtail butterfly on *Ruellia* flower.

CONTINUED ON PAGE 14

HOW SHOULD RUELIIA BE USED IN THE LANDSCAPE?

Ruellia looks best when it is in mixed plantings (Figure 4), while dwarf cultivars are used in borders. In northern Florida where it freezes in the winter, *Ruellia* comes back the following year from the root crown. If you are a northern grower, you may want to give this plant a try as an annual! It grows vigorously and will quickly fill up a large container.



.....
Figure 4. *Ruellia* in a landscape planting.
Photo credit Philip Leveridge www.eastsidepatch.com.

IS RUELIIA INVASIVE?

Non-invasive cultivars are available, but the wild purple form of *Ruellia simplex* is considered invasive, and in Florida its use is not recommended because it has formed invasive populations in natural areas in most counties in the state. In some wooded areas it is the most prevalent understory plant. It fruits profusely and forms about 20 seeds per fruit. The fruits are capsules that turn brown and dry when ripe, and then they open up quite violently (you can actually hear them pop if you listen carefully!) and disperse the seeds quite far from the mother plant. Furthermore, the seeds become sticky when wet, so they can be dispersed by animals to further distances. Seeds have no dormancy period and almost all of them germinate. All the fertile cultivars are potentially invasive.

HOW CAN I CONTROL RUELIIA IN THE LANDSCAPE?

First of all, choose cultivars that are fruitless so that they will not propagate by seed. Note, though, that *Ruellia* forms suckers and stands can become larger over time. Their growth can be controlled by hand-pulling, and in extreme cases (according to studies done by my colleague Carrie Reinhardt-Adams), by an herbicide application of 2 percent glyphosate to dripping. In south Florida, I have seen *Ruellia* stands cut back severely like hedges to control and shape their growth.

WHAT RUELIIA CULTIVARS ARE AVAILABLE?

Until some years ago there was 'Morado Chi' but I believe it is no longer available. 'Purple Showers' is the most commonly used cultivar, because it



.....
Figure 5. Flowers on *Ruellia* 'Chi Chi'.

is sterile and does not set fruit. However, it tends to get quite tall and can fall over. 'Chi Chi' is a medium-sized plant with beautiful pink flowers (Figure 5), but it fruits profusely and is invasive. 'Snow White' is tall with white flowers and its leaves are lighter green and more rounded, but we have noticed that it is more susceptible to mites. There are also dwarf forms, the 'Katies' in purple, pink, and white colors, and the dwarf 'Southern Stars' series available from PanAmerican Seed.



.....
Figure 6. Flowers on *Ruellia* 'Mayan Purple' (left), 'Mayan White' and 'Mayan Pink' (above).

In 2012 I introduced the cultivars 'Mayan Purple' and 'Mayan White', and in 2013 the cultivar 'Mayan Pink'. They all have great garden performance and are sterile, so they will not be invasive by seed dispersal. The Mayan cultivars (Figure 6) are the result of several years of breeding which included doubling the chromosome number of the plants (which make them more vigorous and have bigger flowers) and then doing hand pollinations and selections. With the help of my colleagues Sandy Wilson and Gary Knox, and students Adam Moseley and Madeline Bottenhorn, we trialed these plants in replicated trials in three locations in Florida, and we're all very proud of them! I'm also working to expand the color palette and the growth forms in the Mayan series, so hopefully you will see more cultivars in the market in the near future.



ROSANNA FREYRE, PH.D.
Research Scientist,
Environmental Horticulture
Department
University of Florida
PO Box 110670
Gainesville, FL 32611
352-273-4575
rfreyre@ufl.edu

