

Stephanotis 'Isabella' and 'Puanani'

Superior New Cultivars for Landscape Uses and Cut-Flower Production

Marsdenia floribunda (syn. *Dregea floribunda*; formerly *Stephanotis floribunda*) is commonly known as "stephanotis," "pua male," "floradora," or "Hawaiian wedding flower." It is an evergreen, climbing, woody, flowering vine in the dogbane family (Apocynaceae). It is native to Madagascar and cultivated in Hawai'i and other tropical and subtropical regions for its white, waxy flowers with a fragrance reminiscent of jasmine.

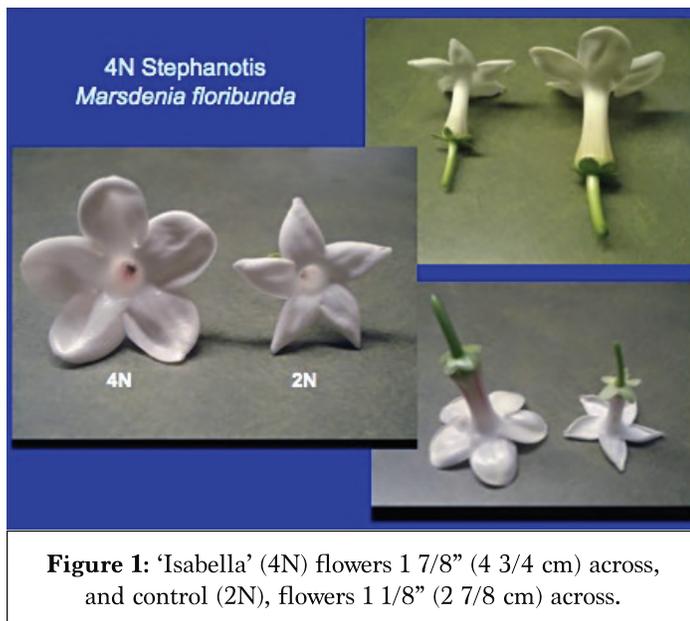


Figure 1: 'Isabella' (4N) flowers 1 7/8" (4 3/4 cm) across, and control (2N), flowers 1 1/8" (2 7/8 cm) across.

"Isabella" and "Puanani" are the selfed progeny of an induced tetraploid (4 sets of chromosomes) stephanotis created by Susana Vanzie-Canton, a graduate student from Belize, in 2006 using colchicine.

Isabella and Puanani have substantially larger flowers than the typical diploid (2 sets of chromosomes) stephanotis that is commonly grown for cut-flower and landscape uses. They also have larger foliage and are more vigorous growers than the typical diploid varieties.

Uses

As with all stephanotis flowers, Isabella and Puanani need a supporting trellis system to climb and grow on, and are limited by the height and spread of that support. In the landscape, they are commonly seen growing on chain-link and similar fencing. They are a popular Hawaiian lei flower

and a frequent component in wedding arrangements and bridal bouquets. For lei, because of their larger size, many fewer flowers are required.

Plant Characteristics

While slow to establish, Isabella or Puanani are vigorous climbers, once established. Flowers are white, tubular, and have a strong, sweet fragrance. They are sterile and do not produce fruits or seeds. The superior characteristics of these cultivars are perpetuated by clonal propagation. Plants will flower in the first year from cutting propagation.



Figure 2: Stephanotis control (2N), at left, and 'Puanani' (4N), at right. 'Puanani' and 'Isabella' have the same flower size.

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Ken W. Leonhardt
Russell Galanti

Department of Tropical Plant and Soil Sciences
leonhard@hawaii.edu, (808) 956-8909

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Preferred Growing Conditions

Stephanotis can grow from sea level up to 1,000-foot elevation. They prefer rich, well-drained soils with a pH range of 5.5 to 6.5, and require even soil moisture. They prefer full sun, grow best in temperatures of 65 to 90°F (18 to 32°C), and have moderate salt and wind tolerance.

Propagation

Cuttings will root at any time of the year. Choose cutting with short internodes. Internodes between 1 and 2 inches apart will allow for at least 2 internodes to be inserted into the rooting medium and increase rooting success. Leave two or three leaves on each rooting stem, after removing the lower leaves from semi-mature wood.



Figure 3. Foliage size differences: 2N, 3" long x 1 3/4" wide (7.6 cm x 4.4 cm); 4N, 3 3/4" x 2 3/8" (9.5 cm x 6 cm)

Dip cutting into the rooting hormone. Insert cuttings 2 to 4 inches long into a sand-peat or perlite media. Cuttings will root in 4 to 6 weeks. Mist is beneficial but not essential if a humid environment can be provided. Rooted cuttings can produce potted flowering plants in 12 months.

Flowering

Flowering occurs from April to July and sporadically during the rest of the year. Flowering can be induced through pruning and light night-break interruptions.

Pruning: Prune the shoots back to no more than half their length. Flowering will occur 10 to 12 weeks after pruning if night temperature remains above 72°F (22°C).

Light: To induce flowering during winter, provide light as a night-break interruption for 4 to 6 hours at 20 watts per square yard of vine for 8 weeks in October-November.

Lighting to promote flowering is more successful when temperatures are 80 to 85°F (27 to 29°C).



Figure 4: Stephanotis 'Puanani' on a 10-foot long trellis

Management

Plants should be planted not closer than 5 feet apart in rows with support trellising. Plants can also be containerized. Nutrient requirements are typical of common tropical garden plants. Recommendations for continuous fertigation



Figure 5: Stephanotis 'Isabella' at upper left, and control below.

are 200 to 250 ppm nitrogen. Stephanotis prefer evenly moist soil, but not consistently wet. Irrigate only when soil has become dry. Do not use overhead irrigation during flowering. Traditionally, pruning occurs approximately

every 5 years after the plants have matured. Plants can be cut back to 3 feet (1 m). Common pests and diseases include the root-knot nematode, aphids, mealybugs, spider mites, scale, and thrips.

Harvesting

Flowers should be pinched from the vine during early mornings. Collection and transport usually occur in paper bags. Avoid contact with smoke, car exhaust, ripening fruits, and wilting flowers, as these are sources of ethylene that can reduce postharvest life. Clean the flowers with a cold water soak. The flowers can be stored in sealed plastic containers at 40°F (4.5°C) for 10 to 14 days.