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Caladium bicolor naturalized on the island of Hawai‘i

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Caladium bicolor (Aiton) Vent. (Araceae) is a neotropical species. According to Madison (1981), the species is found from coastal Brazil to the Andes Mountains and north to the Guianas and Panama. He suggests that the plants of the Antilles are escapes from cultivation. This, however, appears to be an incorrect generalization. *Caladium bicolor* is found in Trinidad, an island very close to the South American mainland, and from the great variation found in the plants (Resslar 2006), the species appears to be native there. The species has become naturalized in other tropical areas throughout the world. This paper reports the presence of *Caladium bicolor* on the island of Hawai‘i, representing a new naturalized record for the state.

Caladium bicolor in Hawai‘i is a perennial, terrestrial, tuberous herb. Description: Tuber subterranean, flattened to subglobose or somewhat cylindrical, yellowish. Leaves 1 to several, ovate to cordiform, peltate; blades 5.5–40.0 cm long, 5–19.5 cm wide, green and spotted with irregularly shaped, grey-green blotches of varying sizes, sometimes glaucous beneath, apex acute, base cordate to emarginate; petioles 9–93 cm long, 2–7 mm in diameter, terete with sheath at base. Sap milky. Inflorescences mostly solitary, rarely 2 or 3 together; peduncle generally shorter than petioles; spathe tube green; spathe limb concave, white, deciduous after antithesis; spadix shorter than spathe. Pollen grains solitary. Fruits not yet observed in Hawai‘i, white berries with several to many seeds.

To date, plants have been observed in Puna and South Hilo Districts. The species appears to be found only in areas where deep, argillaceous soil occurs. None have been observed in areas with thin soil over lava or just lava rock. Sterile specimens of plants found along North Ala Road and surrounding areas near Kurtistown and along a tributary of Maili Stream off Kaiwiki Road have been placed in BISH and Virginia Wesleyan College. A collection made in 1975 by D. Herbst and S. Ishikawa *(Herbst & Ishikawa 5596)* was found in *Herbarium Pacificum* at Bishop Museum. There was no note on the label indicating that this plant was naturalized and not cultivated. It was, therefore, assumed to be cultivated and not included in the *Manual of the Flowering Plants of Hawai‘i* (Wagner *et al.* 1990, 1999).

The plants found on the island appear to be of only one type. All plants observed, both alive and preserved, had leaves with green blades spotted by irregularly shaped, grey-green blotches. This plant fits the description of *C. marmoratum* Mathieu, a species in synonymy with *C. bicolor,* that was collected near Guayaquil, Ecuador. The lack of variation would suggest that all the plants on the island originated from a single introduction. How these plants reproduce is uncertain. They do flower, but the exact length of the reproductive season is uncertain. L. Au (pers. comm.) observed the species flowering near Kurtistown during September. The specimen collected by Herbst and Ishikawa near Mountain View has an inflorescence and was collected in mid-December. No inflorescences were observed in 2007 or 2008 during the month of July. Sexual reproduction in *C. bicolor* is not common nor well understood. In July 2005 on the island of Trinidad, Resslar (2006) found only 12 plants with inflorescences, and only one of those plants

appeared to be producing fruits. In July 2007, two inflorescences were found containing probable pollinators (two species of beetles) and two plants had mature infructescences (Resslar, unpubl.). It is quite possible that sexual reproduction in this species does not occur on the island of Hawai‘i. Complete or near complete reliance on asexual reproduction would help explain the lack of variation, but it also raises questions about how the species was dispersed over it present range.

Material examined. **HAWAI‘I**: Puna Distr, land of ‘Ōla‘a, along North Kūlani Rd ca ½ mile from Mountain View, flowers white, foliage green with spots, 425 m (1400 ft), 16 Dec 1975, *D. Herbst & S. Ishikawa 5596*.

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