

Morphological Characterization of Six Accessions of Pa'uohi'iaka (*Jacquemontia ovalifolia* subs. *sandwicensis*)

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Abstract

Pa'uohi'iaka (*Jacquemontia ovalifolia* subsp. *sandwicensis*, Convolvulaceae) is a native Hawaiian plant that is commonly used as an ornamental ground cover and has potential use as a hanging basket plant. Despite variations in flower color and leaf pubescence, little effort has gone into varietal selection. This study aimed to document easily identifiable morphological characteristics to distinguish between accessions and use these characteristics to select accessions with hanging basket potential. Six accessions were collected from Maui (Puhala Bay, McGregor Point, and Ahihi-Kinau), Hawaii (Mahana Bay), and Oahu (Shidler Business College and Leeward Community College [cultivated]).

Ten sample plants of each accession were grown and pruned after 3 months to encourage lateral branching. Qualitative and quantitative characteristics were recorded at

one month after pruning. Analysis of variance (ANOVA) and Tukey's pairwise comparisons were conducted on each quantitative characteristic to identify differences among accessions. Analysis revealed significant differences ($p \leq 0.05$) in average stem diameter, leaf length, leaf width, leaf thickness, petiole diameter, length of internodes, number and length of lateral branches, flower diameter, and number of open flowers.

No significant differences were observed in plant canopy and number of performed roots. Morphological characteristics, such as number of lateral branches and length of lateral branches, are important factors for selection and potential use of pa'uohi'iaka as a hanging basket plant. Based on these characteristics, selections from Leeward Community College, Puhala Bay, and Mahana Bay show promise for further evaluation.