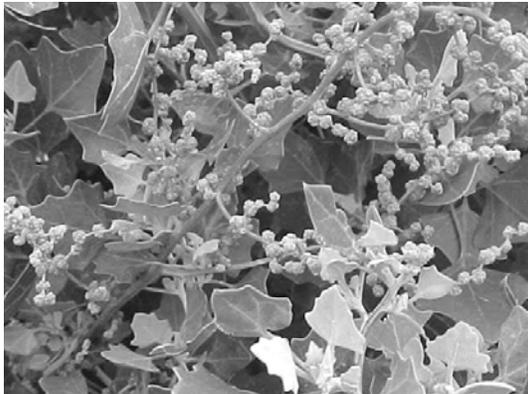


***Chenopodium oahuense* (Meyen) Aellen.**
CHENOPODIACEAE

'aheahea

Synonyms: *Atriplex oahuensis* Meyen,
Chenopodium oahuense var *discosperma* Fosb.,
Chenopodium pekeloii Degener, I. Degener & Aellen,
Chenopodium sandwichicum Moq.



General Description.—*Chenopodium oahuense*, known most commonly as 'aheahea or 'aweoweo, is a nonscented to lightly scented shrub that sometimes takes on the form of a small tree. Plants may be erect, ascending or prostrate, branched, and total height 0.5 to 2 m. Older branches turn gray and woody with age, while younger tissue remains mealy pubescent, thickened and somewhat fleshy. Leaves are rhombic to broadly deltate, 2 to 4.2 cm long, and 1.3 to 2.5 cm wide, with both surfaces pubescent, the upper surface less so and greener. Leaves three-lobed, teeth rounded to obtuse, base truncate to cuneate, petioles 1.3 to 2.5 cm long (Wagner and others 1990). The leaves are strongly scented when crushed (Lamb 1981). Flowers in small, dense clusters grouped into terminal, almost leafless panicles. A calyx nearly 1 mm long, entirely surrounding the fruit at maturity. Seeds are light to dark brown and may be horizontal or sometimes vertical, about 0.8 mm in diameter, the surface covered with short, blunt, rounded projections (Wagner and others 1990).

Range.—While the genus is pantropical in distribution, this species is indigenous to Hawaii. 'Aheahea occurs on Laysan, French Frigate Shoals, Necker, Nihoa, Lisianski, and all of the main Hawaiian Islands except Kaho'olawe (Wagner and others 1990).

Ecology.—'Aheahea is dispersed across the full range of dryland habitats in Hawaii, from coastal to subalpine. It appears primarily as a shrub but has been found on Mauna Kea on the island of Hawaii 3.5 to 4.5 m tall (Lamb 1981). 'Aheahea behaves as a colonizer on old lava flows following site disturbance. In many dry upper elevation shrublands on the island of Hawaii, 'aheahea dominates woody plant density and may be found sharing habitat with native naio, *Myoporum sandwicense* Gray, and mamani, *Sophora chrysophylla* (Salisb.) Seem, trees (Lamb 1981). The US Army has documented 'aheahea as being the most widespread woody plant species across their 108,000 acre Pohakuloa Training Area. Following wildfire in that same area, 'aheahea reestablishment was delayed for approximately 1 year. Within 4 years, however, it had exceeded its preburn density approximately 15-fold (Sherry and others 1999). 'Aheahea appears well adapted to tolerate drought by dying-back during periods of low moisture and then rapidly growing during periods of higher available moisture.

Reproduction.—Seed production is extremely high for this species. The inflorescence is a large terminal panicle composed of many small, dense glomerules of flowers. 'Aheahea peak reproductive events appear correlated with favorable environmental conditions such as prolonged periods of available moisture. However, plants can be found in flower nearly any time of year. Chromosome number $2n = 36$ (Wagner and others 1990).

Growth and Management.—'Aheahea grows rapidly and remains fleshy during the first several months of growth. In later stages, branches are brittle and easily damaged. However larger, older individuals become single-stemmed and develop thickened woody branches. 'Aheahea has been used sparingly as an ornamental in native and xeriscape gardens. The parent plant produces hundreds of seeds, which are easily propagated.

'Aheahea prefers partial to full sun with light watering. The species may have potential in native habitat restoration as a nurse species or to enhance microclimatic understory conditions in favor of woody plant establishment.

Benefits.—The leaves and plant tips are used for greens, and may be eaten like spinach, wrapped in ti (*Cordyline fruticosa* (L.) A. Chev.) leaves and cooked on hot coals. Hawaiians used the plant to make a poultice for minor wounds during battle. Leaves were pounded or crushed and applied like rubbing alcohol, the healing effect due to the presence of chlorophyll in the leaf (Ching 2002). Hawaiians also used the dark red bark pounded in conjunction with other ingredients to create a concoction that would enhance and beautify the skin of a newborn baby when ingested by a pregnant or nursing mother (Anonymous 1996). Two limbs of the shrub wood were connected to create a "makua mano," or shark hook, and in this fashion, 'aheahea was used to catch sharks (Ching 2002). The native shrub is also of great importance to a certain rare beetle, *Rhyncogonus biformis*, that lives on Necker Island. The beetle is nocturnal and emerges at night where it feeds solely on the leaves of the 'aheahea (Kawaharada 2002).

Detrimental Effects.—The flower heads are host plants for *Nysius nemorivagus*, a white Lygaeid bug that can become a nuisance pest for certain agricultural crops such as cabbage, cucumbers, potatoes and all types of squash (Kessing and others 1993).

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