

Piper swartzianum (Miq.) C. DC.
PIPERACEAE

higuillo

Synonyms: *Arianthe swartziana* Miq.



General Description.—This shrub, known by its Spanish name higuillo in Puerto Rico (Little and others 1974), has been assigned the name Spanish elder in English (Natural Resources Conservation Service 2002). The species is an evergreen shrub that may take on vine-like or tree-like form. Higuillo usually has heights of 1.5 to 3 m but may reach 4.5 m in height and 7.5 cm in stem diameter (Little and others 1974). Plants are supported by relatively abundant lateral and fine roots. White mycorrhizal fungi associated with the fine roots are clearly visible. The shrubs usually have multiple stems that have arisen as sprouts from the root crown. The stems are gray with many raised lenticels and have enlarged nodes and a thick pith. The wood is light brown and brittle. The twigs are light green turning gray and often have a zig-zag form. The inner bark, twigs, and leaves have a pleasant spicy odor when crushed, and a peppery taste. The leaves are dull green to dark green, alternate in two rows, with minute gland dots. The leaf blades are oblong to lanceolate, 11 to 24 cm long by 3 to 7 cm broad, long-pointed at the apex and unequally rounded at the base. The flowers and fruits are grouped in 5- to 11-cm cord-like

spikes, 4 mm thick borne singly opposite leaf attachments near the branch tips. The spikes are white during flowering, turning light green or yellow-green as the fruits mature. The individual fruits are imbedded within the spike in spirals (Liogier 1985, Little and others 1974).

Range.—Higuillo is native to Puerto Rico and Hispaniola (Liogier 1985). It is relatively common to rare in the moist and wet portions of Puerto Rico, specifically the public forests of Guajataca, Maricao, and Río Abajo (Little and others 1974), and private lands nearby. Higuillo was misidentified as *P. tuberculatum* Jacq. in Little and others (1974) (Liogier 1985).

Ecology.—Higuillo inhabits middle and late secondary and remnant forests. It is shade tolerant and is usually found in the understory, often in fairly deep shade. Higuillo does not compete well in tall, dense thickets of vigorous shrubs and young trees. At the lower end of the rainfall range (about 1200 mm/yr), the species is confined to extra-humid situations such as deep ravines. It is most common in forests that receive from 1600 to 3000 mm of precipitation. Higuillo grows on sites from a few meters above sea level to more than 1,000 m in elevation on a wide variety of soils derived from all types of parent material including ultramafics and limestone.

Reproduction.—In order to flower and fruit, mature higuillo plants need breaks in the forest canopy that admit over-head sun for part of the day. Vigorous plants flower and fruit continuously (Little and others 1974). Air-dried seeds weighed an average of 0.00156 g/seed or 641,000 seeds/kg (author's observation). The seeds are probably dispersed by fruit bats that eat the fruits. Seedlings are widely scattered and uncommon.

Growth and Management.—New seedlings grow slowly. Well-established plants and sprouts grow about 0.5 m/year in height. Individual stems live 3 or 4 years and are replaced by other sprouts so that established plants can live indefinitely. No management experience has been published. Natural reproduction could probably be

encouraged by disturbance that exposes mineral soil under a moderately shady tree canopy.

Benefits.—Higuillo contributes to the biodiversity, scenic beauty, and stability of the soil of the forests where it grows. Like other pipers, its fruits are food for fruit bats.

References

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Natural Resources Conservation Service. 2002. Plants profile: *Piper blattarum* Spreng. http://plants.usda.gov/cgi_bin/checklist.cgi. 2 p.

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