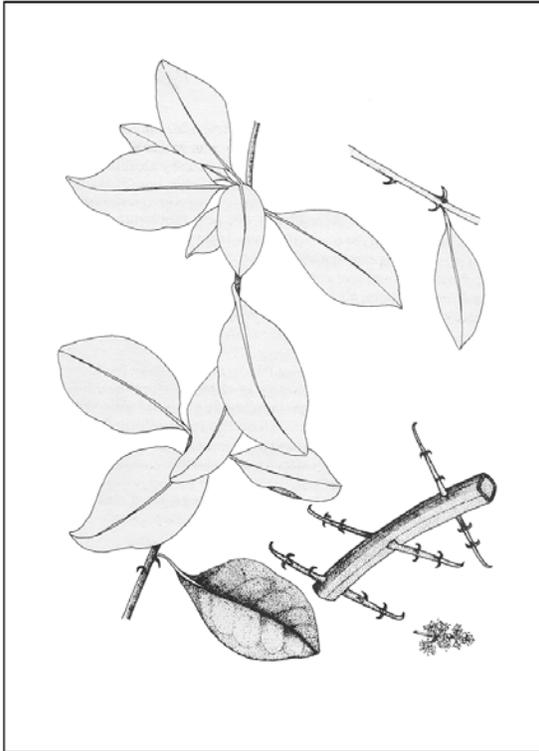


***Pisonia aculeata* L.**
NYCTAGINACEAE

pull-back-and-hold

Synonyms: *Pisonia helleri* Standley
Pisonia yaguapinda D. Parodi



General Description.—Pull-back-and-hold (a name used in Florida) is a species known by a large number of common names worldwide. Other names used in U.S. territories are devil's claw (Florida), wild bougainvillea (Texas), escambrón (Puerto Rico), and prickly mampoo (U.S. Virgin Islands). Pull-back-and-hold is a large, scrambling and climbing woody shrub (vine) that rarely becomes a small tree. It is reported as a medium to large tree in Costa Rica (Enquist and Sullivan 2001). Its stems and branches are smooth, dark gray, and usually support opposite, stout, hooked and branched spines. The spines aid in clinging to tree crowns. Pull-back-and-hold may have one to several branches arising near the base, and then the stems are relatively free of branches until they reach increased light, usually in the canopy of trees where they branch profusely. Seedlings have a taproot and finer laterals. In older plants the lateral roots become extensive and diffuse. The fine roots are tough and fibrous. The species may be evergreen or deciduous depending

on the climate. The leaves are variable, ovate to elliptical and 2.5 to 15 cm long by 1.5 to 6 cm broad. They are light to dark green, leathery to somewhat fleshy. The flowers are small axillary cymes that are succeeded a few months later by 11 to 15 mm long fruits (anthocarps) with five single or double length-wise rows of sticky glands (Acevedo-Rodríguez 1985, Howard 1988, Liogier 1985).

Range.—Pull-back-and-hold is native to most of the humid tropical and subtropical areas of the world including five continents, most of the islands of the Caribbean and many of the Pacific islands. Its range includes southern Florida and the Rio Grande Valley of Texas (Florida 4-H Foundation 2001, Friend 2001, Howard 1988).

Ecology.—Pull-back-and-hold grows from near sea level in coastal areas to as much as 1,000 m in elevation in continental areas (Múlgura 2000). In Puerto Rico, the species grows in sites receiving from 750 mm to over 2000 mm of precipitation. These shrubs grow well in soils with textures from sand to clay, with drainage from somewhat poorly drained to excessively well drained in limestone, igneous, and alluvial areas. In Florida, the species grows on hummocks and pinelands (Florida 4-H Foundation 2001). Seedlings and young plants survive in broken sunlight, but to reproduce, a plant must be relatively large and must have reached nearly full sunlight. This usually means growing in the crowns of trees or sometimes on rocks or fences

Reproduction.—In Puerto Rico, pull-back-and-hold flowers from December to May (the dry season) and fruits in August (just before the wet season) (Acevedo-Rodríguez 1985) although fruiting of occasional individuals may occur at almost any time of the year. Plants in Costa Rica fruit late in the wet season (Enquist and Sullivan 2001). A large plant can produce thousands of seeds during a fruiting episode. Fruits from a Puerto Rican collection averaged 0.077 ± 0.028 g/fruit. Seeds extracted by hand, which have the appearance of grains of wild rice, averaged 0.041 ± 0.011 g/seed. It is not necessary to extract seed

because they germinate satisfactorily within the fruit. Seventy-five percent of seeds from the above Puerto Rican collection, sown as fruits in commercial potting mix, germinated between 21 and 49 days after sowing. Pull-back-and-hold is susceptible to damping-off as seedlings in germination beds. Seedlings are ready to prick out into containers about 1 month after germination. The sticky seeds can cling to birds while on the trees; then, after they fall, still attached to the infrutescences, stick to the clothing or fur of passing humans and animals.

Growth and Management.—Although pull-back-and-hold has only a moderate growth rate, it can live for several decades and become quite large. Plants may reach 20 m of extension (Acevedo-Rodríguez 1985) and 20 cm of stem diameter in Puerto Rico. It is sometimes desirable to remove pull-back-and-hold from forest stands. This increases safety during timber harvest and helps ensure that the regenerating stand will not be suffocated by resurgent vines. A time-honored method is to cut the vines hanging from trees 1 year before harvest and then to cut or spray the few surviving sprouts just before harvest.

Benefits.—Pull-back-and-hold may be used as a hedge or a foundation plant in landscaping, but it requires regular pruning to keep it under control (Friend 2001). An occasional plant occurs entirely free of spines. Perhaps these could be propagated vegetatively for ornamental use. The wood of wild pull-back-and-hold is sometimes used for fuel. It is hard, heavy, and often available in good diameters and considerable lengths. Root extracts have been used in herbal medicine as a purgative, and extracts from leaves and bark are used to treat arthritis (Acevedo-Rodríguez 1985).

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