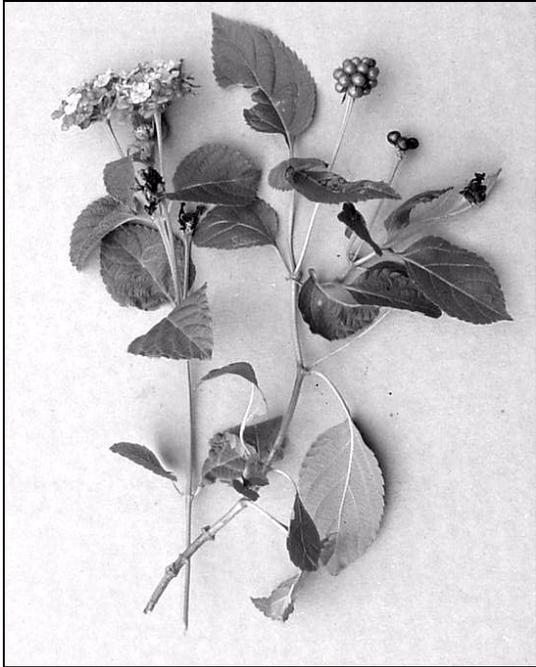


***Lantana camara* L.**
VERBENACEAE

lantana

Synonyms: *Lantana aculeata* L.
Lantana antillana Raf.
Lantana camara L. var. *aculeata* (L.) Mold.
Lantana scabrida Soland.



General Description.—*Lantana* has many common names including cariaquillo, filigrana, mille fleurs, sauge, red sage, yellow sage, prickly sage, and lakana. It is a medium-sized aromatic shrub with quadrangular stems, sometimes having prickles. The posture may be suberect, scrambling, or occasionally clambering (ascending into shrubs or low trees, clinging to points of contact by means of prickles, branches, and leaves). Frequently, multiple stems arise from ground level. The leaves are generally oval or broadly lance-shaped, 2 to 12 cm in length, and 2 to 6 cm broad, having a rough surface and a yellow-green to green color. The flat-topped inflorescence may be yellow, orange, white, pale violet, pink, or red (Howard 1989, Liogier 1995). The small individual flowers of wild Puerto Rican shrubs darken with age so that inflorescences are yellow in the center and orange toward the perimeter. Fruits form in clusters similar in appearance to a blackberry.

Range.—The native range of *lantana* extends from Bermuda, the Bahamas, the Greater Antilles, the Lesser Antilles, through Trinidad and Aruba. On the mainland, it is native to coastal areas of the United States from Georgia through Texas and from northern Mexico to South America including Brazil and Peru and probably Bolivia, Paraguay and northern Argentina. *Lantana* has naturalized in most suitable habitats in tropical and subtropical Africa, Asia, and Australia. Most of the world's tropical and subtropical islands including the Hawaiian Islands, Guam, Pitcairn Island, Madagascar, the Juan Fernandez archipelago, Reunion, and the Galapagos have naturalized populations. This colonization has occurred largely during the last century.

Ecology.—*Lantana* grows on all types of well-drained soil in areas that receive from about 250 mm to 2900 mm of rainfall. It resists droughts very well and tolerates salt spray. Aerial portions of the plant are killed by temperatures of -2°C , but quickly grow back (Anonymous 2000). Large and vigorous plants survive fires and cutting well, although less vigorous plants are often killed. *Lantana* is an intolerant pioneer that colonizes disturbed areas. It will grow under an open forest canopy but quickly disappears when the shade becomes heavy. Many pests and diseases lightly and incidentally affect the species across its broad range.

Reproduction.—The inflorescence is a capitate, many-flowered head. The corolla may vary widely in color depending on the variety but characteristically changes colors between the center flowers and older, outer flowers. *Lantana* blooms almost continuously under favorable conditions. Somatic chromosome numbers of 33, 44, and 55 were recorded in India, the latter tetraploid being the most common (Sinha and others 1995). Insects, especially butterflies, pollinate the flowers. Clusters of drupes are produced abundantly. The fruits are blueblack when ripe and contain one seed each. They are

eaten by birds and are widely scattered. If not eaten, they dry and remain on the shrub for weeks. A sample of seed collected in Puerto Rico contained 100,700 seeds/kg of which 75 percent germinated within 7 weeks of sowing. Early growth is rapid. Also, lantana can be propagated with cuttings and air layers.

Growth and Management.—Ornamental plants are established as potted seedlings. This is probably also the best method to establish plants for environmental protection projects such as reclamation of mine spoils. Lantana may reach 3 m in height within 3 or 4 years. In naturalized habitat, the species often forms dense thickets. These brush stands may be eliminated at considerable expense from pastures and tree plantations by cutting and herbicide application. The preferred methods are to cut the clumps and drench the stumps with herbicide or to later spray the tender regrowth with postemergence herbicide. Once established, tree plantations with closed canopies will keep lantana from reestablishing itself.

Benefits.—Lantana, in many horticultural varieties, is planted the world over as a flowering ornamental. It is grown as an annual bedding plant in temperate areas. Lantana oil, an aromatic mixture that varies by local plant variety, is exported from at least Brazil (Weyerstahl and others 1999). In herbal medicine, infusions of the leaves and other plant parts are used as an antiinflammatory (Oyedapo and others 1999), a tonic and expectorant, and added to baths as an antirhumatic. Lantana extracts have also been shown to be a powerful febrifuge (Liogier 1990). Because the leaves and some other parts of lantana are poisonous, care must be taken when it is used medicinally. The ripe fruit is benign and heavily consumed by birds and frequently eaten by humans in some countries (Herzog and others 1994). Extracts of lantana leaves have shown strong insecticidal and antimicrobial activity in numerous experiments. Storing potatoes with lantana leaves nearly eliminates damage by *Phthorimaea operculella* Zeller, the potato tuber moth (Lal 1987). Stems and leaves are used as mulch. Although of inferior quality because of size and form, lantana stems are widely used as fuel in less developed countries.

Detrimental Effects.—Lantana has become a weedy invader of disturbed forest land and neglected pasture in much of its naturalized range. In some areas, competition by lantana results in a

reduction of biodiversity (Kumar and Rohatgi 1999). Despite the establishment of a number of natural enemies of lantana into exotic populations, control of lantana populations has been usually limited or a failure (Day and others 1999, Hill 1999). In thick stands, the shrub increases costs in forest management by inhibiting access in stands for thinning and felling, competes with reproduction, and increases fire hazards (Graaff 1986). Lantana leaves contain poisonous triterpenes and lantadenes A and B that cause death of horses, cattle, sheep, goats, and rabbits by failure of the liver and other organs (Morton 1994, Munyua and others 1990). However, most animals carefully avoid eating this plant when given a choice. Green fruits also contain the poisons and have caused illness and death in children (Morton 1994). Lantana leaves and their leachates exert allelopathic effects in vitro and to a lesser extent in soil on seed germination, root elongation, and plant growth of many species (Casado 1995, Sahid and Sugau 1993).

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