



Opuntia ficus-indica (L.) Mill.

CACTACEAE

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Synonyms

Opuntia ficus-indica (L.) Mill.: *Cactus chinensis* Roxb.; *Cactus ficus-indica* L.; *Cactus opuntia* L.; *Opuntia arcei* Cárdenas; *Opuntia chinensis* (Roxb.) K. Koch; *Opuntia compressa* J.F. Macbr.; *Opuntia cordobensis* Speg.; *Opuntia ficus-barbarica* A. Berger; *Opuntia megacantha* Salm-Dyck; *Opuntia paraguayensis* K. Schum.; *Opuntia tuna-blanca* Speg.; *Opuntia vulgaris* Mill.; *Platyopuntia cordobensis* (Speg.) F. Ritter

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Local Names

Bolivia: Penca, Tuna (Spanish); **Colombia:** Tuna, Chumbera, Higo chumbo, Nopal, Tuna (Spanish) (Bussmann et al. 2018); **Ecuador:** Tuna, Tuna amarilla, Tuna blanca (Spanish) (de la Torre et al. 2008), Gorondilla; **Peru:** Tuna (Spanish); **English:** Prickly pear

Botany and Ecology

Shrub or tree up to 5 m tall, forming sturdy trunk with age. Joints flattened, narrowly elliptic to ovate, varying in size, 30–60 cm long and 6–12 cm broad, attenuate below, often acute above, fairly thick, glaucous-green; areoles small to large, raised and woolly, with 3–6 radiating, unequally long, grayish white spines up to 3(–10) cm long, straight or occasionally slightly curved, or spineless (in older plants and some cultivars). Leaves, if developed, are minute, subulate and early deciduous. Flowers about 7 cm long; hypanthium broadly cylindrical, contracted below, with numerous raised areoles spirally arranged, densely woolly and filled with glochidia, occasionally also bearing small spines and minute leaves; petaloid segments yellow or orange. Fruits ellipsoid, about 7 cm long, reddish, succulent, edible. Seeds about 5 mm long (Macbride and Weberbauer 1936–1995) (Figs. 1, 2, 3, and 4).

Local Medicinal Uses

Bolivia: The plant is used to treat heat stroke, sunburn, yellow fever, renal problems, and gastritis (Quiroga et al. 2012). **Colombia:** The leaves prepared in infusion are used in Colombia as anti-inflammatory. In the form of a poultice, they relieve skin irritations or make swellings disappear. The leaves of the Tuna have the property of clarifying turbid waters. The fruits are used as diuretics (Arias Alzate 1962; Fonnegra Gómez et al. 2012; Patiño 1963; Patiño 1964; Pérez Arbeláez 1996).

Fig. 1 *Opuntia quitensis* (Cactaceae), Pusac, Peru. (Photo R.W. Bussmann and N.Y. Paniagua-Zambrana)



Fig. 2 *Opuntia quitensis* (Cactaceae), Pusac, Peru. (Photo R.W. Bussmann and N.Y. Paniagua-Zambrana)



Fig. 3 *Opuntia quitensis* (Cactaceae), Pusac, Peru. (Photo R.W. Bussmann and N.Y. Paniagua-Zambrana)



Fig. 4 *Opuntia ficus-indica* (Cactaceae), Zugdidi, Georgia. (Photo R.W. Bussmann and N.Y. Paniagua-Zambrana)



Fresh stems are used to treat inflammation, high cholesterol, obesity, spurs on feet, and as water purifier; fruits are used as diuretic (Bussmann et al. 2018). **Bolivia:** Fresh stem is used to treat gallbladder, liver, diabetes, back pain, fractures, strong blows, fever, hair care, inflammation, lung pain, wound swelling, burns, kidney

infection, and for good luck, “limpia” (cleansing ritual) (Bussmann et al. 2016; Macía et al. 2005). **Peru:** Fresh fruits are used to treat diabetes, reproductive problems, and hair loss (Bussmann and Sharon 2006b, 2007b, 2015a, b; Bussmann and Glenn 2010, 2011; Bussmann et al. 2010a), as well as colic, gastritis, and constipation (Monigatti et al. 2013). The fruits are sold in many markets (Bussmann et al. 2007; Bussmann and Sharon 2010). *Opuntia* shows some limited antibacterial properties (Bussmann et al. 2010b, 2011a, b). In **India**, *Opuntia* is used to treat tuberculosis (Raj et al. 2018).

Opuntia pubescens is used in **Ecuador** to remove obstacles from the urinary tract (Béjar et al. 2001; Bussmann and Sharon 2006a, 2007a).

Local Food Uses

The prickly pear fruits range in flavor from sour to very sweet. The fruit is eaten throughout Latin America, the Mediterranean, and the Middle East. There is commercial tuna production in Italy, Spain, Sicily, Tunisia, Mexico, and South America, especially Chile. The tender young pads (Nopalitos) are eaten as a vegetable particularly during the lent season. **Colombia:** Fresh stems are used as food (Bussmann et al. 2018). **Ecuador:** The fruit is edible and is used to prepare juices (unspecified ethnic group – Imbabura, Pichincha, Loja) (de la Torre et al. 2008).

Local Handicraft and Other Uses

The plant is alternatively used as dairy cattle fodder. The most extensive use of cactus occurs in Brazil where *O. ficus-indica* has been grown as a fodder for more than 80 years. **Ecuador:** The stem is food of cochineal (unspecified ethnic group – Pichincha) (de la Torre et al. 2008). The plant is grown on crop edges and properties (de la Torre et al. 2008).

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