**Enterolobium cyclocarpum**

### Scientific name

*Enterolobium cyclocarpum* (Jacq.) Griseb.

### Synonyms

Basionym: *Mimosa cyclocarpa* Jacq.; *Inga cyclocarpa* (Jacq.) Wild.

### Family/tribe

Family: *Fabaceae* (alt. *Leguminosae*)  
subfamily: *Caesalpinioideae* (mimosoid clade) * tribe: *Ingeae.*


### Morphological description

A semi-deciduous tree up to 40 m; crown thin and spreading, leaves bipinnately compound with 4–9 pairs of pinnae, each with 13–30 pairs of leaflets, narrowly oblong, 8–13 mm long, 2–4 mm wide. Inflorescence a many flowered, compact and round head, white, 1–2.5 cm diameter, on a 2–3 cm long peduncle, at the base of the leaves. Pod flat, thickened, contorted and indehiscent, resembling an ear in form, reddish-blackish-brown, 7–12 cm in diameter, 0–16 seeds/pod; seed 13–20 × 11 × 8 mm, ovate, with pale pleurogram. 1,000–3,000 seeds/kg.

### Common names

**Asia:** xiang er dou (Chinese); sengon buto (Indonesia)  
**Caribbean:** bwa tanis wouj (Creole Patois)  
**English:** devil’s-ear, earpodtree, elephant's-ear, Mexican walnut, monkey ear, monkeyssoap, mulatto ear, pitchwood  
**Europe:** bois tanniste rouge, caro, oreille d’éléphant, oreille de singe (French); Affenseife (German)  
**Latin America:** tubroos (Belize); genicero, jarina, kurú (Costa Rica); pit (Guatemala); petz’kin, pich (Maya); tuburus (Nicaragua); algarrobo de orejas, anjera, árbol de las orejas, carita, caro caro, caro hembra, cascabel, cascabel sonaja, conacaste, corotú, costa-mahogany, dormilón, flamboyan extraniero, guanacaste, guantarabacke, hueso de pescado, jenizaro, juana, nacastillo, nacastle, oreja, oreja de judío, oreja de mono, orejón, parota, perota, picho, piñón, yaga chibe (Spanish); chimbo (Brazil)

### Distribution

**Native:**

North America: Mexico (Chiapas, Colima, Guerrero, Jalisco, Mexico, Michoacán, Nayarit, Oaxaca, San Luis Potosí, Sinaloa,
Tamaulipas, Veracruz
Central America: Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama
South America: Brazil (Roraima), Colombia, Guyana, Venezuela (Apure, Zulia, Aragua, Barinas, Cojedes, Falcón, Guárico, Miranda, Nueva Esparta, Portuguesa, Federal District, Carabobo, Lara, Yaracuy)

Cultivated/naturalized:
Africa: humid and subhumid tropical
Asia: China, India, Philippines, Singapore
Pacific: New Caledonia
Caribbean: Barbados, Cuba, Dominica, Haiti, Jamaica, Martinique, Montserrat, Puerto Rico, St. Lucia
South America: Suriname (?)

Uses/applications

Forage
Pods are readily eaten by grazing livestock and/or collected to be fed as sugar-rich supplement. The leaves are eaten but less readily than the pods. Although there are reports on *E. cyclocarpum* foliage being used as forage, the main forage/livestock-related value of this tree lies in the fact that it provides (1) highly nutritious pods in the dry season, (2) shade and shelter to grazing livestock and (3) improved pasture growth under its canopy. In its area of origin, it is frequent as a spontaneous tree component in pastures, often in association with *Samanea saman*.

Other
In agroforestry, including silvopastoral systems, provision of shade and wood. The wide spreading crown provides excellent shade for livestock as well as for crops such as coffee. Immature pods can be used as vegetables after cooking; have nutritional and medicinal properties.

Ecology

Soil requirements
Tolerant of alkaline, calcareous and acid soils with pH as low as 5 if aluminium saturation is not a problem. Best growth on medium-textured soils; however, eroded ultisols, deep moist clays, shallow sandy clays and porous limestone soils are reported to also support good growth. Intolerant of water-logging.

Moisture
Native habitat is dry forest vegetation with dry seasons of up to 6 months; mean annual rainfall: 750–2,500 mm.

Temperature
Is found in mean annual temperature ranges of 23–28 °C at elevations between sea level and 1,200 m asl. Intolerant of frosts.

Light
Intolerant of shade.

Reproductive development
Flowering occurs when the trees are leafless (towards the end of the dry season); one year from flowering to mature pods.

Defoliation
Reported to resprout vigorously after coppicing or lopping. Pruning can improve the length and form of the bole.

Fire
No information available but adult trees will probably resprout if fires are not too hot.

Agronomy

Guidelines for establishment and management of sown forages.

Establishment
For plantation establishment, 4 × 4 m spacings are recommended, with thinnings, on a rotation of 25–35 years. Thorough weeding of the plantation is essential during the early years.

Fertilizer
No data available but trees are probably responsive to fertilisation. Due to symbiotic nitrogen fixation, generally improved grass growth below *E. cyclocarpum* trees can be observed in silvopastoral systems.

**Compatibility (with other species)**
Once established, most suitable as tree component in silvopastoral systems.

**Companion species**
Once established, combines well with any grass or legume.

**Pests and diseases**
No widespread or serious disease or pest problems are reported.

**Ability to spread**
Spread by animals that ingested pods with mature seeds.

**Weed potential**
Minor.

**Feeding value**

**Nutritive value**
Mature pods: 16.3–26.3% CP, 60–76% digestibility; leaves: 21.3% CP, NDF 60.7%.

**Palatability/acceptability**
Pods are highly palatable to all livestock. Information on the palatability of foliage is, however, controversial. Whereas there seem to be situations where leaves are actually consumed, palatability of *E. cyclocarpum* foliage is considered to be very low.

**Toxicity**
A series of antinutritional factors, among them saponins, trypsin inhibitors and cyanogenic glycosides, have been reported.

**Feedipedia link**
https://www.feedipedia.org/node/296

**Production potential**

**Dry matter**
Not applicable.

**Animal production**
Depending on the level of supplementing with *E. cyclocarpum* pods, reported increases of gains of cattle or sheep liveweights as well as milk production seem to be only modest.

**Genetics/breeding**

2n = 26.

**Seed production**
In silvopastoral systems, pod production is allegedly 3–10 times higher than that of any other tree. Adult trees produce about 2,000 pods/season, each with 10–16 seeds. Seed storage behaviour is orthodox; seeds tolerate desiccation to 10.7%. Seeds remain viable for several years under cool, dry conditions.

**Herbicide effects**
No information available.

**Strengths**
- Multipurpose use.
- Wide adaptability (soil, rainfall).
- Highly nutritious pods.

**Limitations**
- Low palatability foliage.
- Slow establishment.
Internet links

http://apps.worldagroforestry.org/treedb/AFTPDFS/Enterolobium_cyclocarpum.PDF

https://uses.plantnet-project.org/en/Enterolobium_cyclocarpum_(PROSEA)

Selected references


Hernández, I. and Sánchez, M.D. (2014) Small ruminant management and feeding with high quality forages in the Caribbean. Interamerican Institute of Cooperation in Agriculture (IICA), Santo Domingo, Dominican Republic. repositorio.iica.int/bitstream/11324/2611/1/BVE17038698i.pdf


Cultivars

None released.

Promising accessions

None reported.

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