5. INTRODUCTION TO *Urena lobata*

*Urena lobata* is an annual in sub tropic and perennial in the tropics. A variable under shrub about 0.6 to 3 m in height and up to 7 cm in basal diameter. It grows in moist regions. It is commonly known as Caeser weed.

5.1 Taxonomical classification of *Urena lobata*

![Fig 5.1: Habitat of the *Urena lobata*](image)

Kingdom- Plantae
Sukingdom-Traceobionta
Super division-Spermatophyta
Division-Mangoliophyta
Class-Mangoliopsida
Sub class-Dilleniidae
Order –Malvales
Family –Malvaceae
Genus-Urena
Species-Lobata

5.2 Vernacular names

Hindi-Bacha,Unga,Pitia
Bengali-Benochoura
Malayalm-Udiram
Sanskrit-Vanabenda
Telugu-Pedda benda
Tamil-Ottatti, Ottututti.
Fig: 5.2 Morphology of *Urena lobata* L.

Aerial parts

Capsule

Calyx

Flower

Seed
5.3 Botany

5.3.1 Binomial

*Urena lobata* Linn is a dicotyledon

Family: Malvaceae.

5.3.2 Synonym

Caesar weed is also known as hibiscus bur, aramina, pink Chinese burr, jute African.

5.3.3 General Description - It is a sub shrub 0.6 to 3 m in height and up to 7 cm in basal diameter.

i. Stem

The species usually has a single stem emerging from the ground but normally produces several stems or major branches low on the stem and many branches throughout.

ii. Bark

The nearly smooth bark is tough and fibrous, brown on the outside and green within. It is pale yellow.

iii. Root

Plants are supported by a tap and lateral root system of tan or ivory-colored, tough and flexible roots.

iv. Leaves

Greyish-green, colorless, alternate leaves are stellate-pubescent both above and below, ovate, angulate or shallowly lobbed, 1 to 12 by 1 to 12 cm, and have serrate margins.
v) Flowers
Axillary flowers are usually solitary and have five pink petals. The flowers are about 1 cm broad.

vi) Fruits
The fruits are 8 to 10-mm globose capsules that break into five fine-barbed (glochidate) mericarps. (Howard 1989, Liogier 1994, Stevens and others 2001)

5.3.4 Distribution - The original range of Caesar weed is probably Asiatic. Today it grows throughout moist tropic and subtropical regions including American Samoa, Florida, Guam, Hawaii, Louisiana, Puerto Rico, and the U.S. Virgin Islands (Natural Resources Conservation Service 2003, Pacific Island Ecosystems at Risk 2003).

5.3.5 Ecology - Caesar weed readily invades poorly managed pastures, scarified and eroded areas, and perennial crop plantations but is much less of a problem in annual crops. The species does not compete well in tall grass swards and brushlands and does not grow under forest canopies. Caesar weed grows on a wide variety of soils of varying fertility derived from most parent materials. It tolerates salt spray and a moderate amount of salt in the soil but does not grow in saturated soils. The species ranges to elevations of 1,500 m (Pacific Island Ecosystems at Risk 2003).

5.3.6 Reproduction - Caesar weed flowers and fruits throughout the year (Stevens and others 2001). A collection of seeds from Puerto Rico averaged 0.0239 + 0.0003 or 41,800 seeds / kg. Placed on
moist blotter paper without pretreatment, just 3 % germinated in 9 months. Germination is epigeal (author’s observation). Sulfuric acid scarification was tested as a means of breaking dormancy of seed from Sierra Leone. The best treatment (18 molar solution for 90 minutes) gave 96 % germination as compared with distilled water that gave 4 % germination (Harris 1986). Seeds are dispersed by clinging to fur and clothing. Seedlings are common in disturbed sites near seed sources.

5.3.7 Growth and Management - It requires pH of 5.6 – 6.0 (acidic), 6.1 - 6.5 (mildly acidic), 6.6 – 7.5 (neutral) soil for the growth. Caesar weed grows rapidly and can reach 0.5 to 2 m by the end of the first year. In Puerto Rico, it can live 2 years, usually dying back to mid height after the first growing season. It is not known whether the shrubs sprout from the roots multiple times. A fiber crop yielding 1,800 kg / ha is ready to harvest after 6 to 7 months and seed crops of 300 to 500 kg / ha are ready after 7 or 8 months (Fagundes 2003).

5.3.8 Benefits and Detriments - Various extracts of leaves and roots are used in herbal medicine to treat such diverse ailments as colic, malaria, gonorrhea, fever, wounds, toothache, and rheumatism (Forest Research Institute of Malaysia 2003). A semipurified glycoside obtained from Caesar weed leaves was 86 % as effective an anti-inflammatory as aspirin in rats (Bautista 2000). The leaves and flowers are eaten as famine food in Africa (Freedman 1998). Raw leaves are reported to contain 81.8 % moisture, 54 cal, 3.2 g of
protein, 0.1g fat, 12.8g carbohydrates, 1.8 g fiber, and 2.1g ash, 558 mg calcium, and 67mg of phosphorous per 100 g (FAO 2003). However, the plant is little browsed by cattle and can become a severe weed in pastures and plantations. Burs that collect on clothing and in animal fur are a nuisance. The plant was used traditionally as an anti-bacterial, anti-inflammatory, amoebicidal also in bronchitis, diuretic, gastritis, cough, nephouritis, diarrhea, fever, pneumonia, gingivitis, emollient, menorrhagia and emmenagogue.
References

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Urena sinoata- It is distinguished from Urenalobata by having among other characters, deeply lobed leaves in which the sinuses are rounded rather than acute. Wagner et al-1999, 903.