LOCAL NAMES
Arabic (umm ageda,godem,gaddein,gaddeim); Hindi (gangu kanger,gango,gangerun,achchu); Somali (duferu,dekah,defarur,damak); Wolof (kel)

BOTANIC DESCRIPTION
Grewia tenax is a multistemmed shrub up to 2 m tall, usually rounded but generally battered and untidy due to browsing. Bark smooth, grey, very fibrous so that twigs are hard to break.

Leaves alternate, almost circular in outline, 1.5-4 cm in diameter, margins toothed and prominently tri-nerved at the base, often hairy, particularly beneath with star shaped hairs. Stipules inconspicuous, falling early.

Flowers solitary or in pairs, axillary placed, petals white, about 1 cm long; sepals long and recurved.

Fruit orange-red at maturity, with 1-4 spheroid lobes.

Grewia tembensis and G. tenax are virtually indistinguishable in fruit. The specific epithet refers to the plant’s tenacious growth habit. The genus was named after Nehemiah Grew (1641-1712), one of the founders of plant physiology.

BIOLOGY
G. tenax is hermaphroditic and insect pollinated.
Grewia tenax (Forsk.) Fiori
Tiliaceae

ECOLOGY
G. tenax is highly drought resistant and occurs in the driest savannas at desert margins and regions of higher rainfall, where it grows in thickets on termite mounds in otherwise seasonally flooded country. In the Sahel it grows in rocky places on hills and slopes, in regions with 100-600 mm of rain per annum.

BIOPHYSICAL LIMITS
Altitude: 0-1 500 m
Mean annual rainfall: 200-1 000 mm
Soil type: Sandy, rocky and lateritic soils.

DOCUMENTED SPECIES DISTRIBUTION
Native: Algeria, Botswana, Chad, Djibouti, Ethiopia, Iran, Kenya, Mali, Mauritania, Morocco, Namibia, Niger, Nigeria, Saudi Arabia, Senegal, Somalia, South Africa, Sudan, Tanzania, Uganda, Zimbabwe
Exotic: India, Pakistan

The map above shows countries where the species has been planted. It does neither suggest that the species can be planted in every ecological zone within that country, nor that the species can not be planted in other countries than those depicted. Since some tree species are invasive, you need to follow biosafety procedures that apply to your planting site.
Grewia tenax (Forsk.) Fiori
Tiliaceae

The map above shows countries where the species has been planted. It does neither suggest that the species can be planted nor guarantee its survival. Since some tree species are invasive, you need to follow biosafety procedures that apply to your planting site.

PRODUCTS
Food: The fruits consumed by man and animals contain a large amount of iron and can be made into a refreshing drink. Fruit storage can be extended by drying. The dead leaves are eaten, but only while they remain on the plant.

Fodder: Young leaves are consumed by livestock, they are slightly palatable at the end of dry seasons, and have fairly good feed value.

Apiculture: Bees visit the flowers for pollen and nectar.

Fuel: The branches are used as firewood, and can be used in charcoal making.

Fibber: The bark is used to make ropes and for binding purposes in house construction.

Timber: G. tenax wood is used in making weapons such as clubs, bows, arrows and for other general purposes.

Poison: A mucilaginous bark preparation is used by women against hair vermin.

Medicine: In Kenya plant parts are used as a remedy for colds and chest complaints and also as a chief constituent in a typhoid remedy.

SERVICES
Erosion control: G. tenax has an aggressive root system which holds fast to the soil protecting it from water and wind erosion.

Reclamation: With regard to its sturdy growth habit, G. tenax seems promising as a dune fixing plant in desert reclamation.

Intercropping: Intercropping with G. tenax may not affect crop growth adversely.

Soil improver: Leaf litter from the shrub improves soil physical and chemical properties.

Boundary or barrier or support: The shrub can be used for hedging.
**Grewia tenax**

*(Forsk.) Fiori*

**Tiliaceae**

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**TREE MANAGEMENT**
The shrub is drought tolerant, an adaptation to the erratic rainfall in its natural habitat. Seedlings survive planting out with ease, but never grow large. Growth is fast, sometimes up to 1.5 m in 8 months. Plants need protection from browsing animals. Total nursery time for G. tenax is approximately 2 months.

**GERmplasm MANAGEMENT**
Germination is reportedly difficult in this species, however, germination percentages of over 75% have been achieved by pretreating seed by repeated washing and scrubbing until all flesh is removed. Germination occurs after 10 days. There are 15 000-21 000 seeds /kg.
Grewia tenax (Forsk.) Fiori
Tiliaceae

FURTHER READING

SUGGESTED CITATION