Cordia dichotoma

Forster f.

Boraginaceae

LOCAL NAMES
Bengali (buhal,bahubara); English (sebesten,clammy cherry,Indian cherry); Gujarati (vadgundo,gunda); Hindi (lasura,bhokar,borla); Javanese (kendal); Lao (Sino-Tibetan) ('man,'man khôk); Malay (petekat,sekendai); Nepali (kalo bohori,bohori); Sanskrit (bahuvarka); Tamil (vidi,naruvili,kalvirusu); Thai (mandong,manma,phakmong)

BOTANIC DESCRIPTION
Cordia dichotoma is a small to moderate-sized deciduous tree with a short bole and spreading crown. The stem bark is greyish brown, smooth or longitudinally wrinkled.

Flowers are short-stalked, bisexual and white in colour, appear in loose corymbose cymes.

The fruit is a yellow or pinkish-yellow shining globose or ovoid drupe seated in a saucer-like enlarged calyx. It turns black on ripening and the pulp gets viscid. The hard stone is 1-4 seeded.

The generic name honours a 16th century German botanist, Valerius Cordus. The specific epithet means having divisions always in pairs.

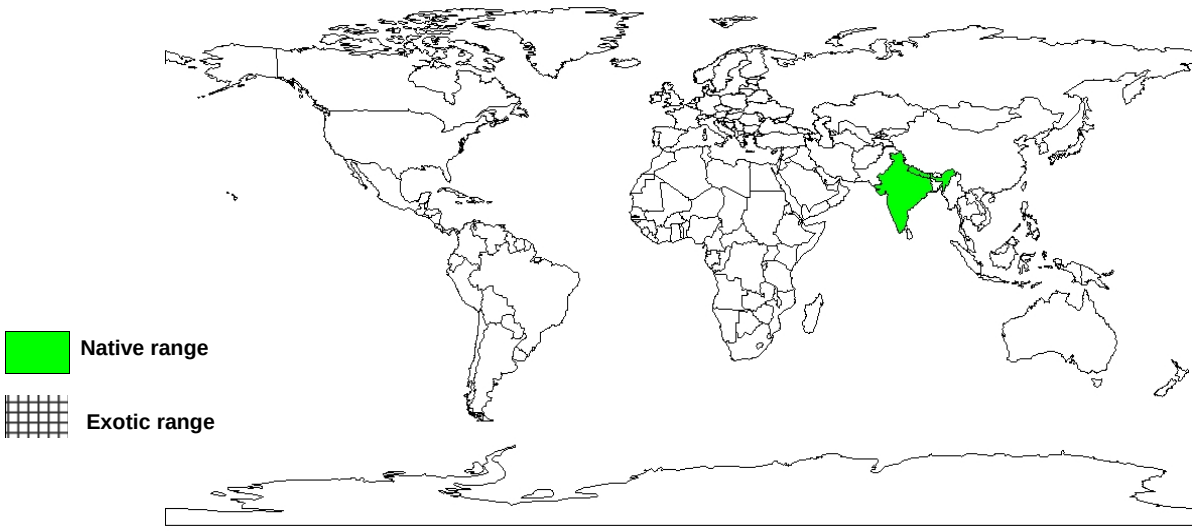
BIOLOGY
Flowers are bisexual. Flowering takes place from March to May with the new leaves. The old leaves are shed during winter and the trees are leafless for a short period in early summer. Fruits are formed soon after flowering, develop quickly and ripen from June to August in north India and normally before May in south India. Seed dispersal is aided by birds and monkeys which feed on the ripe fruit. Flowers bisexual.

ECOLOGY
C. dichotoma is a tree of tropical and subtropical regions. It grows in the sub-Himalayan tract and outer ranges, ascending up to about 1 500 m elevation. It is found in a variety of forests ranging from the dry deciduous forests of Rajasthan to the moist deciduous forests of Western Ghats and tidal forests in Myanmar. In Maharashtra, it grows in moist monsoon forest also. It does not grow gregariously, but is found growing singly in moist shady ravines and valleys. In areas with annual rainfall less than 500 mm, it thrives along streams or depressions where moisture is available.

BIOPHYSICAL LIMITS
Altitude: 200-1 500 m
Mean annual rainfall: 250-3 000 mm
Soil type: The tree prefers deep moist sandy loam soils.

DOCUMENTED SPECIES DISTRIBUTION

Native: India, Myanmar, Nepal
Exotic:



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.

PRODUCTS
Food: The immature fruits are pickled and are also used as a vegetable

Fodder: The leaves yield good fodder and are lopped for this purpose. They contain 12-15 % crude protein, 16-27 % crude fibre, 42-53 % nitrogen-free extract, 2-3 % ether extract, 13-17 % total ash, 2-4 % calcium and about 0.3 % phosphorus. The seed kernel of C. dichotoma contains a high proportion of fatty oils and proteins (46 and 31%, respectively) which has potential as cattle feed.

Fuel: The tree is used as a fuelwood.

Timber: The wood is used to make agricultural implements.

Poison: Fruit extract of C. dichotoma suppresses larval hatching of Meloidogyne incognita.

Medicine: Seeds of the species are anti-inflammatory, 2 compounds alpha-amyrin and 5-dirhamnoside have been isolated. The bark is medicinal and several chemicals have been identified; Allantoin, beta -sitosterol and 3',5-dihydroxy-4'-methoxy flavanone-7-O- alpha -L-rhamnopyranoside. The seed kernel has medicinal properties.

SERVICES
Boundary or barrier or support: C. dichotoma is a quick-growing fruit tree, performing well under semi-arid conditions and suitable for planting along boundary and farm roads.

TREE MANAGEMENT
Young seedlings are frost tender and also suffer from exposure to hot sun. They are susceptible to browsing and fire, but recover appreciably from these injuries. The tree coppices and pollards well. On good sites the trees reach a height of 4 m in 4 years and a diameter of over 20 cm in 8-9 years. From pole stage it prefers complete overhead light, but seedlings and saplings can withstand a fair amount of shade.

GERMPLASM MANAGEMENT
Ripe fruits are collected from the trees and rubbed to remove the flesh. The healthy stones are dried in the shade and kept in tin containers. The stones can be stored for 1 year in airtight containers kept in a dry place to avoid insect attack. There are 4 000-7 000 stones/kg.

PESTS AND DISEASES
A large number of insect pests are reported, defoliators being among the most important. Larvae of some insects of the families Chrysomelidae, Glyphiplerygidae, Noctuidae, Lymantreedae, Notodontidae, Pyralidae, Sphingidae and Yponomeutidae defoliate the leaves. Larvae of Gracilariidae and Lyonetiidae mine the leaves and those of Eucosmidae roll the leaves. Larvae of some insects belonging to families Eucosmidae, Curculionidae and Pyralidae bore into the fruits and shoots. Austrothrips cochinchinensis forms galls and feeds on the sap. Aceria gallae and A. pobuzii infest C. dichotoma in Taiwan and cause galls on leaves, fruits, shoots and tender stems. The weevil Barioscapus cordiae, adults attack the fruits and feed on the green pedicel, sepals and pollen grains inside the buds.

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SUGGESTED CITATION

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