

# *Lissocarpa* Benth.

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This treatment is composed of the following taxa: *Lissocarpa*, *Lissocarpa benthamii*, *Lissocarpa kating*.

## HOW TO CITE

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## DESCRIPTION

**Treelets**, small or, less frequently, medium tall trees without latex, glabrous on all organs (except on stigmas); roots probably black in all species; small stilt roots sometimes present; bark black, blackish or dark gray, hard, brittle, charcoal-like, smooth, or rough or grooved vertically; sapwood light yellow to whitish, darker after air exposure, without odor; heart-wood gamboge-yellow, or dark to nearly black; twigs terete or subterete, with or without wing-like longitudinal ridges; bark soon bloating and cracking up by longitudinal, black fissures; still entire parts of the bark of older twigs at first often covered with the partially peeling off, gray remnants of the epidermis, later becoming grayish brown to black; buds dorsiventrally flattened, brownish to black, the apical ones soon aborted after termination of growth; new axes developed from lateral buds (growth sympodial). **Leaves** alternate, simple, exstipulate, petiolate or nearly sessile, finely and pinnately veined (venation brochidodromous); lamina usually broadly lanceolate to elliptic; leaf margins entire, usually revolute when dry, notably thickened in some species; leaf apex acute to shortly acuminate (and in this case with a short drip tip), rarely obtuse or rounded; base of the lamina attenuate or rounded, tapering ridge-like into the petiole; flachnektarien (extrafloral nectaries) on abaxial leaf surfaces round or less frequently elliptic, 0.2 - 0.6 mm in diameter, with a strongly raised margin and a sunken center (patelliform), the younger ones usually drying light brown, the older ones black; midvein prominent or sunken adaxially, strongly prominent and often triangular in cross section abaxially; secondary veins straight, or less frequently slightly curved; intersecondary veins 1-3 in-between and only slightly shorter and thinner than the secondary veins. **Flowers** axillary, solitary along the proximal part of long-shoots, or 2-10 together on lateral, 2-15 mm long, inflorescence-like short-shoots which are terminating in a soon aborting bud; flowers sessile or shortly pedicellate, actinomorphic, epigynous, 4-merous (very rarely 5-merous), unisexual (apart from many completely sterile flowers); flower bract small and inconspicuous; pedicel persistent, articulated above the bracteoles; bracteoles 2, much larger than the bract, wider than long, subopposite, subtending the hypanthium; hypanthium on the inside crateriform; calyx lobes 4, attached in an erect position to the distal border of the hypanthium, usually dextrorsely contorted, sometimes imbricate, obtuse, rounded, broadly truncate or slightly emarginate distally, with fimbriate, or slightly erose, or entire margins, persistent but not enlarging with the fruit; corolla sympetalous, isomerous with the calyx, white at anthesis in most species, firm and somewhat fleshy when alive, very hard, brittle and black when dry (leathery, with organs persistently sticking together when rehydrated); corolla lobes contorted dextrorsely (the uncovered part of the lobe is always to the right, when seen from the adaxial side), often slightly asymmetrical; tube prominent; corona most probably absent in all species of section *Enho* (4 species), present in species of section *Lissocarpa* (4 species), consisting of 8 sinistrorsely contorted lobes, most probably derived from stamens; corona lobes flat, exerted for half of their length, widest somewhat below the rounded or acute apex, connate near their base and forming a short tube adnate to the corolla tube near its middle, more or less flexed towards the corolla distally, alternate with respect to the stamens and staminodes; stamens (in male flowers) 8, included, free abaxially, adnate to the corolla tube only below its middle; filaments very short; anthers linear, erect, basifixed, with a short apiculate-prolonged connective, 2-thecal, 4-sporangiate, dehiscing by longitudinal slits; pollen 3-porate; staminodes (in female or sterile flowers) 8, resembling stamens although anthers collapsed, flat, devoid of pollen, adnate on their abaxial side for their whole length to the corolla tube and to the corona tube respectively, except for the apical part of the connective; ovary inferior (axis forming a hypanthium), 4-carpellate, syncarpous, 4-locular; ovary of the male and sterile flowers without locules; stylodia as numerous as carpels, fully connate, forming a terminal style; the latter markedly enlarged basally, narrowed towards the middle, clavate near the apex; clavate part of the style containing chambers

filled with an oily, or resinous, dark brown substance; stigma densely covered with hair-like appendages, concealing the shallowly 4-lobed apex; carpels biovulate, with apical placentation, not bisected by a false (secondary), longitudinal septum (as is the case in most other Ebenaceae). **Fruit** representing an ellipsoidal-fusiform, less frequently ellipsoidal, ovoid, or subglobose berry with persistent, not accrescent calyx lobes at the apex; fruit wall thin, fleshy, pink or red at maturity (at least in some species) when alive. **Seeds** only 1-2 per fruit, rarely more (others aborting), pendulous, with a vascular system consisting of 6 -12 branches visible as longitudinal ridges; hilum relatively small, apical; testa smooth, thin, coriaceous. **Endosperm** horny, abundant, smooth. **Embryo** upside-down (radicle superior), straight, with two small foliaceous cotyledons and a strongly developed radicle. (Description based on Wallnöfer 2004)

## COMMENTS

For more information about the genus, see Wallnöfer (2004).

### Life Form

Shrub, Tree

### Substrate

Terrestrial

## DISTRIBUTION

Native, Not endemic to Brazil

### Phytogeographic Domains

Amazon Rainforest

### Vegetation Types

Amazonian Campinarana, Inundated Forest (Igapó)

### Geographic Distribution

#### Confirmed occurrences

North (Amazonas)

## IDENTIFICATION KEY

1. Youngest twigs drying gray-green. Tertiary venation well visible and raised on both sides of the lamina. White-sand areas (caatinga) on terra-firme (not subject to periodical inundation) in lowlands of central and western Amazonia ..*Lissocarpa kating* 1'. Youngest twigs drying dark brown to brownish black. Tertiary venation obscure adaxially. Lowland forests in periodically inundated areas (igapós) along black-water rivers within the upper Rio Orinoco and Rio Negro drainage.. *Lissocarpa benthamii*

## REFERENCE

Wallnöfer B., 2004. A revision of *Lissocarpa* Benth. (Ebenaceae subfam. Lissocarpoideae (Gilg in Engler) B.Walln.). *Annalen des Naturhistorischen Museums in Wien, Serie B*, 105: 515–564.

# *Lissocarpa benthamii* Gürke

## DESCRIPTION

**Stem: shape of the young branch** subcylindrical with longitudinal ridge. **Leaf: phyllotaxy** alternate spiralled; **leaf shape** lanceolate/elliptic/ovate/oblong; **leaf apex** acuminate/acute; **leaf base** attenuate/rounded; **leaf margin** flat; **nectary on the abaxial surface** near to leaf base/near to midrib/near to margin; **venation** midrib flat and tertiary vein obscure. **Inflorescence: inflorescence type** short shoot/solitary flower on the long shoot; **inflorescence position** axillary; **number of the flower per inflorescence** 1 to 2/2 to 4/5/more than 5. **Flower: shape of the calyx lobe(s)** rounded; **calyx margin** fimbriate; **calyx tooth** broader than long; **shape of the corolla lobe(s)** rounded; **corona** present. **Fruit: fruit shape** ellipsoid.

## COMMENTS

For more information about the species, see Wallnöfer (2004).

### Life Form

Shrub, Tree

### Substrate

Terrestrial

## DISTRIBUTION

Native, Not endemic to Brazil

### Phytogeographic Domains

Amazon Rainforest

### Vegetation Types


Amazonian Campinarana, Inundated Forest (Igapó)


### Geographic Distribution

#### Confirmed occurrences

North (Amazonas)

## HERBARIUM MATERIAL

Nascimento, O.C., 186, RB, 173589,  (RB00203235)

Schultes, R.E., 9905, IAN, 60010,  (IAN060010), NY

## REFERENCE

Wallnöfer B., 2004. A revision of *Lissocarpa* Benth. (Ebenaceae subfam. Lissocarpoideae (Gilg in Engler) B.Walln.). *Annalen des Naturhistorischen Museums in Wien, Serie B*, 105: 515–564.

# *Lissocarpa kating* B.Walln.

## DESCRIPTION

**Stem:** shape of the young branch cylindric without longitudinal ridge. **Leaf:** phyllotaxy alternate spiralled; leaf shape lanceolate/elliptic/obovate/oblong; leaf apex acuminate; leaf base attenuate; leaf margin flat; nectary on the abaxial surface near to midrib/near to margin/scattered; venation midrib raised and tertiary vein evident. **Inflorescence:** inflorescence type short shoot/solitary flower on the long shoot; inflorescence position axillary; number of the flower per inflorescence 1 to 2/2 to 4/5. **Flower:** shape of the calyx lobe(s) rounded; calyx margin fimbriate; calyx tooth broader than long; shape of the corolla lobe(s) elliptic; corona present. **Fruit:** fruit shape ellipsoid.

## COMMENTS

For more information about the species, see Wallnöfer (2004).

### Life Form

Tree

### Substrate

Terrestrial

## DISTRIBUTION

Native, Not endemic to Brazil

### Phytogeographic Domains

Amazon Rainforest

### Vegetation Types


Amazonian Campinarana

### Geographic Distribution

#### Confirmed occurrences

North (Amazonas)

## HERBARIUM MATERIAL

R.L. Fróes, 20732, NYBG, 3785669,  (NY03785669), NY, K

A. Ducke, 24567, P, 3785669 (P04590655), NY, K

A. Ducke, 5199, P (P04590654), Amazonas

A. Ducke, 24567, P (P04590655), Amazonas

A. Ducke, s.n., RB, 24567,  (RB00203221), Amazonas

A. Ducke, s.n., RB, 5199,  (RB00203209), Amazonas

## REFERENCE

Wallnöfer B., 2004. A revision of *Lissocarpa* Benth. (Ebenaceae subfam. Lissocarpoideae (Gilg in Engler) B.Walln.). *Annalen des Naturhistorischen Museums in Wien, Serie B*, 105: 515–564.