3. DYSOXYLON, Blume.

(Hartighsea, *A. Juss.*)

Calyx small, 4- or 5-toothed, or divided into 4 or 5 sepals. Petals 4 or 5, free or adnate to the staminal tube, spreading at the top. Staminal tube truncate or 8- or 10-toothed; anthers 8 or 10, within the summit. Disk tubular, as long as or usually much longer than the ovary. Ovary 3- to 5-celled; style elongated; stigma disk-like; ovules 2 in each cell, or rarely solitary. Capsule globular or pear-shaped, 1- to 5-celled, opening loculicidally in 2 to 5 thickly coriaceous valves. Seeds with or rarely without an arillus, oblong, with a broad ventral hilum; testa coriaceous; albumen none; cotyledons large.—Trees, often fœtid. Leaves pinnate, leaflets opposite or alternate in the same species, entire, often oblique. Panicles axillary, loose, but often small. Flowers not very small.

A considerable genus, spread over tropical Asia and the Indian Archipelago, extending also to New Zealand. The Australian species are all endemic. The genus is readily known by the tubular disk enclosing the ovary within the staminal tube.

Calyx cupular, shortly toothed. Petals free. Flowers 4-merous. Ovary-cells 2, 2-ovulate	1. *D. latifolium.*
Calyx cupular, shortly toothed or lobed. Petals adnate to the staminal tube.	
Flowers 4-merous. Ovary-cells 3, 2-ovulate. Leaflets 5 to 9. Panicles small, loose. Tubular disk short and broad	2. *D. Fraseranum.*
Flowers 4-merous. Ovary-cells 4, 1-ovulate. Leaflets 11 to 21. Panicles large. Staminal tube hirsute. Tubular disk long and slender	3. *D. Muelleri.*
Flowers 4- or 5-merous. Ovary-cells 4 or 5, 1-ovulate. Leaflets 4 to 6. Panicles loose, few-flowered. Staminal tube glabrous.	4. *D. Lessertianum.*
Calyx of 5 distinct sepals. Petals adnate to the staminal tube. Flowers 5-merous. Ovary-cells 5, 2-ovulate	5. *D. rufum.*

Dysoxylon

1. **D. latifolium,** *Benth.* Leaves glabrous; leaflets in our specimens 4 or 5, ovate or broadly oval-oblong, shortly acuminate, 3 to 4 in. long, oblique at the base, somewhat coriaceous. Flowers in sessile or shortly pedunculate clusters, along a simple, axillary, nearly glabrous peduncle of 4 to 5 in. Pedicels short, slightly pubescent. Calyx cupular, not 1 line long, with 4 very short broad teeth. Petals 4, pubescent outside, about 3 lines long, valvate in the bud, free from the staminal tube. Staminal tube truncate, and shortly and irregularly 8-toothed. Disk broadly tubular, sprinkled with a few minute hairs. Ovary, in the flowers examined, 2-celled, with 2 ovules in each cell, pubescent, tapering into an elongated style; stigma disk-like. Fruit not seen.

Queensland. Frankland Islands, *M'Gillivray.*

2. **MELIA**, Linn.

Calyx 5- or 6-cleft. Petals 5 or 6, linear-spathulate, spreading. Staminal tube 10- or 12-toothed; anthers 10 or 12, within the summit. Disk annular. Ovary 3- to 6-celled; style slender, with a capitate lobed stigma; ovules 2 in each cell, superposed. Drupe succulent, with a bony 1- to 5-celled putamen. Seeds solitary in each cell; testa crustaceous; albumen fleshy, sometimes scanty or none, cotyledons leaf-like.—Trees. Leaves usually twice or thrice pinnate, with petiolulate toothed leaflets. Flowers paniculate.

The genus comprises but very few species, natives of tropical Asia, one of them generally planted in many parts of the globe. The Australian species is one of the Asiatic ones.

Melia

1. **M. composita,** *Willd.; W. and Arn. Prod.* 117. An elegant tree, the young leaves, shoots, and inflorescence sprinkled with a mealy stellate tomentum which disappears with age. Leaves twice or rarely thrice pinnate; leaflets petiolulate, opposite with a terminal odd one, ovate to almost lanceolate, acuminate, 1 to 2 in. long, entire, coarsely toothed or sometimes lobed. Panicles loose, shorter than the leaves, retaining the mealy tomentum late, especially on the calyx and petals. Sepals small, ovate. Petals 4 to 5 lines long. Staminal tube hirsute inside behind the anthers, the teeth alternately entire and 2-cleft; anthers glabrous or slightly hirsute. Ovary 5-celled. Drupe ovoid, $\frac{1}{2}$ to $\frac{3}{4}$ in. long.—*M. australasica*, A. Juss. in Mem. Mus. Par. xix. 257.

N. Australia. Albert river, *Henne.*

Queensland. Burdekin river, *F. Mueller;* Broad Sound, *R. Brown;* Rockhampton, *Thozet.*

N. S. Wales. Macleay, Hastings, and Clarence rivers, *Beckler;* Newcastle, *Leichhardt.*

The Australian tree appears to me identical with the *M. composita* of East India and the Archipelago, and scarcely differs from the more common *M. Azedarach*, except in the more abundant mealy tomentum, especially on the inflorescence and flowers. The drupe is also usually larger and more ovoid.

NIB

MELIACEAE

Melia dubia

7. OWENIA, F. Muell.

Sepals 5, short, orbicular, much imbricate. Petals 5, imbricate in the bud. Staminal tube short or long, with 10 entire or 2-lobed teeth; anthers protruding between the teeth. Disk small, annular or not distinct from the ovary. Ovary 3- or 4-celled, or in one species 12-celled, with 1 ovule in each cell; style rather thick; stigma globular or conical, entire or lobed, on a disk-like expansion of the summit of the style. Drupe globular, the epicarp more or less succulent, putamen thick, woody or bony, rugose outside, 2- to 4-celled, or in one species 12-celled. Seeds solitary in each cell, the outer coating spongy, the hilum broad lateral; cotyledons oblong, thick.—Trees, with the juice often (perhaps always) milky, the young shoots often viscous or gummy. Leaves pinnate. Flowers small, in axillary panicles. Fruits rather acid, eaten by the aborigines.

The genus is endemic in Australia, and differs from all other known *Trichiliæ* in its globular drupaceous fruit.

Leaflets numerous, lanceolate, acute.
- Leaflets 1-nerved. Panicles narrow. Flowers 2½ lines long . . . 1. *O. acidula.*
- Leaflets with the lateral veins conspicuous. Panicles divaricate. Flowers very numerous, about 1 line long . . . . . 2. *O. vernicosa.*

Leaflets 2 to 4 pairs, obtuse, penninerved or reticulate.
- Leaflets oblong or broadly lanceolate, narrowed at the base, quite glabrous. Fruit 4-celled . . . . . 3. *O. venosa.*
- Leaflets pubescent. Fruit 12-celled . . . . . 4. *O. cerasifera.*
- Leaflets large, ovate or ovate-lanceolate, broad and sessile at the base, very prominently reticulate underneath . . . . . 5. *O. reticulata.*

Queensl

1. **O. acidula,** *F. Muell. in Hook. Kew Journ.* ix. 304, *and Fragm.* iii. 14. A small or moderate-sized tree, glabrous, with the young shoots glutinous. Leaves crowded at the ends of the often pendulous branches; leaflets from 9 to nearly 30, linear-lanceolate, acute or mucronate, 1 to 1½ in. long, oblique, the midrib prominent underneath, but otherwise almost nerveless, the common petiole 3 to 6 in. long. Panicles narrow, shorter than the leaves. Flowers nearly sessile, in clusters or on short branches of the panicle. Sepals about 1 line long. Petals about 2 lines. Teeth of the staminal tube subulate, but more or less connected by an undulate crenate or almost fringed membrane. Disk small, annular. Ovary 3-celled. Drupe ¾ to 1 in. or rather more in diameter, said to resemble a russet apple, the epicarp pulpy, of a rich crimson; putamen very hard.

Queensland. Desert of the Suttor and Burdekin, *F. Mueller.*

N. S. Wales. Arbuthnot's Range, *Fraser;* near the Gwydir river, *Mitchell* (figured in Mitch. Three Exped. i. 82, without any name); Darling Desert, *Victorian Expedition;* Castlereagh river, *Herb. F. Mueller.*

NTG

5. **O. reticulata,** *F. Muell. in Hook. Kew Journ.* ix. 305. A small tree, quite glabrous. Leaves often above a foot long, the common petiole angular or slightly dilated, terminating in a short point. Leaflets 4, 6, or 8, sessile, ovate or broadly ovate-lanceolate, obtuse, 4 to 8 in. long, oblique at the base, coriaceous, smooth above, with very prominent pinnate veins and numerous raised reticulations underneath. Panicles loose, very divaricate, the branches often 6 in. long or more. Flowers sessile, clustered. Sepals above 1 line long, orbicular. Petals twice as long. Staminal tube often divided to near the middle into 10 flat 2-lobed teeth or lobes. Ovary 2- or 3-celled. Fruit 1½ in. diameter, the epicarp fleshy but not thick. Putamen hard and very rugose.—*O. xerocarpa*, F. Muell. Fragm. iii. 13.

N. Australia. Near Nichol Bay, *Walcott*; islands of the Gulf of Carpentaria, *R. Brown, F. Mueller, Henne.*

Ouvirandra Vericosa F. Muell.

2. **O. vernicosa,** *F. Muell. Fragm.* iii. 15. Quite glabrous. Branches thick, marked with the broad scars of the fallen leaves, the young shoots glutinous. Leaves larger than in *O. acidula*, the common petiole slightly flattened; leaflets 15 to nearly 30, lanceolate, acuminate, often above 2 in. long, oblique, with a prominent midrib and transverse reticulations. Panicles 3 or 4 in. long, with divaricate branches and numerous flowers, much smaller than in *O. acidula*. Sepals about ½ line long, slightly ciliate. Petals little more than 1 line. Staminal tube short, with 10 subulate teeth. Fruit the size of that of *O. acidula*, the stony endocarp thicker and harder, usually 3-celled.

N. Australia. Cambridge Gulf, *A. Cunningham*; mouth of the Victoria river, *F. Mueller*.

Var. (?) *pubescens*. Young shoots and inflorescence softly pubescent; flowers still smaller and more numerous.—Mouth of the Victoria river, *F. Mueller* (*Hb. F. Muell.*).

8. **CARAPA**, Aubl.

(Xylocarpus, *Kœn.*)

Calyx small, 4- or 5-lobed. Petals 4 or 5, free, imbricate in the bud. Staminal tube urceolate, crenate or lobed; anthers 8 or 10, within the summit. Disk thick, surrounding the ovary. Ovary 4- to 5-celled, with 2 to 6 ovules in each cell; style short, with a large disk-like stigma. Capsule globular or ovoid, fleshy or woody, the dissepiments often disappearing. Seeds several in a compact mass round the remains of the central axis, large, thick, with a ventral hilum; testa spongy; cotyledons superposed, often united; radicle dorsal.—Maritime trees. Leaves pinnate with entire leaflets. Panicles axillary.

The species are few, ranging over the tropical seacoasts either of America and Africa or of Africa and Asia. The Australian one belongs to the latter category.

NIB

MELIACEAE

Xylocarpus australasicus
Reidl.

Xylocarpos granatum Koenig

1. **C. moluccensis,** *Lam.; DC. Prod.* i. 626. A tree, glabrous in all its parts. Leaflets 4, rarely 2 or 6, opposite, ovate, obtuse, shortly acuminate or rarely acute, 2 to 3 or rarely 4 in. long, somewhat coriaceous, more reticulate than in any of the preceding genera. Panicles short, loose, and few-flowered, sometimes reduced to simple racemes or with few divaricate branches. Calyx small, irregularly lobed. Petals 4 or rarely 5, $2\frac{1}{2}$ to 3 lines long. Staminal tube crenate or splitting into short lobes. Ovary very small, in the centre of a large thick depressed disk. Ovules 2, 3, or 4 in each cell, excessively minute. Fruit often 3 or 4 in. diameter, irregularly globular. Seeds usually 4 to 6, large, irregularly shaped, closely packed; testa very thick, of a hard spongy consistence.—*Xylocarpus Granatum*, Koen.; Willd. Spec. Pl. ii. 328.

N. Australia. Saltwater Creek, near Macadam Range, *F. Mueller;* islands of the Gulf of Carpentaria, *Henne.*

Queensland. N.E. coast, *A. Cunningham;* islands of Howick's group, *F. Mueller;* Port Denison, *Fitzalan* (in leaf only, with loose fruits).

Common on the seacoasts of tropical Asia, extending westward to E. Africa and eastward to the Moluccas. It varies considerably in the more compact or looser inflorescence, in the size of the flowers, and in the teeth of the staminal tube.