2. MELIOSMA Blume, Catalogus, 10. 1823.

泡花树属  pao hua shu shu

_Millingtonia_ Roxburgh, Pl. Coromandel 3: 50. 1820 ["1819"], not Linnaeus f. (1782); _Wellingtonia_ Meisner (1840), not Lindley (1853).

Trees or shrubs, evergreen or deciduous. Buds naked, brownish tomentose. Leaves simple or odd pinnate, leaves or leaflets entire or often dentate; petiole usually thickened at base. Inflorescence terminal, sometimes axillary, a pyramidal panicle, usually profusely flowered but sometimes sparsely so, up to 4 × branched and very large. Flowers numerous, 1–3 mm in diam., hermaphroditic, zygomorphic, sessile or shortly pedicellate. Sepals [3 or](4 or)5(–9), imbricate, with bracts beneath. Petals 5, imbricate, unequal, 3 outer ones larger, usually suborbicular or reniform, convex, 2 inner ones much smaller, bifid or entire, sometimes 3-lobed, ± adherent to base of filaments of fertile stamens, concealed under outer petals at bud stage. Fertile stamens 2, opposite 2 inner petals; filaments flattened, short, incurved at apex into a cup-shaped connective; anthers 2-celled, globose or elliptic; staminodes 3, opposite outer sepals, adherent to their bases. Disk cup-shaped or shallowly cup-shaped, 5-dentate. Ovary sessile, 2(or 3)-loculed, with 1 or 2 ovules per locale. Fruit a drupe, small; mesocarp fleshy; endocarp stony or crustaceous. Seed ± globose, usually somewhat concave ventrally, without endosperm.

About 50 species: SE Asia, Central and South America; 29 species (ten endemic) in China.

The reader may also wish to refer to Beusekom, Revision of Meliosma (Sabiales), section Lorenzanea excepted, living and fossil, geography and phylogeny (Blumea 19: 355–529. 1971).


1a. Leaves pinnate.

2a. Terminal leaflet (rarely 2 leaflets) with articulation on petiolule; sepals usually 4; outer petals broadly reniform or other shapes, slightly broader than long.

3a. Leaflets abaxially crinite at vein axils; panicle 12–30 cm; 2 inner petals acutely bifid ....................................... 28. _M. alba_

3b. Leaflets abaxially not crinite at vein axils; panicle 40–45(–60) cm; 2 inner petals obtusely bifid ........ 29. _M. veitchiorum_

2b. Terminal leaflets 3, petiolules not articulate; sepals 5; outer petals suborbicular or broadly elliptic, narrower than long.

4a. Leaflets leathery, abaxially pubescent or glabrous.

5a. Leaflets narrowly elliptic, elliptic-lanceolate, or lanceolate, margin entire or rarely 1- or 2-toothed near apex, only sparsely pubescent on midvein ................................................................. 21. _M. angustifolia_

5b. Leaflets narrowly ovate, ovate-lanceolate, or oblone-elliptic, margin sparsely spinose-serrate, both surfaces glabrous, or only crinite at axils of lateral veins ................................................................. 22. _M. rhoifolia_

4b. Leaflets subleathery, abaxially pubescent, lanuginous, or glandulous (except in _M. pinnata_).

6a. Leaflets basally usually cuneate, glabrous on both surfaces; petiole terete ..................................................... 23. _M. pinnata_

6b. Leaflets basally usually obtuse-rounded, ± pubescent; petiole grooved.

7a. Leaflets adaxially shortly pubescent, abaxially pubescent or subglabrous ............................................ 27. _M. oldhamii_

7b. Leaflets adaxially glabrous except pubescent on midvein and lateral veins.

8a. Leaflets abaxially pale, claviform-glandular, but crinite at vein axils ...................................................... 26. _M. glandulosa_

8b. Leaflets abaxially light green, sparsely pilose or lanuginous.

9a. Branchlets brown; leaflets ovate or ovate-lanceolate, abaxially and on inflorescences pilose or lanuginous ................................................................. 24. _M. arnottiana_

9b. Branchlets red; leaflets narrowly oblong, narrowly ovate, or narrowly obovate-elliptic, abaxially and on inflorescences sparsely pubescent ................................................................. 25. _M. kirkii_

1b. Leaves simple.

10a. Lateral veins straight or nearly so.

11a. Two inner petals entire, longer than fertile stamens ................................................................. 5. _M. myriantha_

11b. Two inner petals bifid, or sometimes between the 2 lobes, with a smaller one, shorter than fertile stamens.

12a. Panicle pendulous, rachis and branches distinctly zigzag ................................................................. 4. _M. flexuosa_

12b. Panicle erect, lateral branches not pendulous, rachis and branches straight or slightly flexuose.

13a. Leaf margin sharply biserrate, abaxially curved pilose, inconspicuously crinite at vein axils ................................................................. 1. _M. dilleniifolia_

13b. Leaf margin serrate, or seldomly 1- or 2-biserrate, straight or sparsely pubescent, conspicuous crinite at vein axil.

14a. Leaf blade obovate-cuneate or narrowly obovate-cuneate, apex shortly acuminate,
<table>
<thead>
<tr>
<th></th>
<th>Meliosma dilleniifolia</th>
<th>Meliosma cuneifolia</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a</td>
<td>Leaf margin serrate</td>
<td>Leaf blade obovate, apex subtruncate, with short acute tip, margin undulate</td>
</tr>
<tr>
<td>2a</td>
<td>Abaxial surface of leaves and inflorescences sparsely pilose or densely tomentose</td>
<td></td>
</tr>
<tr>
<td>3a</td>
<td>Petiole densely lanuginous; panicle 2 or 3 × branched</td>
<td>Drupe globose, 3–3.5 mm in diam.; 2 inner petals bifid to half</td>
</tr>
</tbody>
</table>
| 4a | Petiole 1.5–2.5 cm; branchlets pubescent; drupes globose | Drupe compressed-globose, 6–7 mm in diam.; endocarp tri- 
| 7a | Leaves usually shorter than 15 cm, if to 15 cm, less than 5 cm wide, lateral veins fewer than 15 pairs. | |
| 8a | Leaves leathery, abaxially glabrous; flowers ca. 2 mm in diam., 2 inner petals entire. | |
| 9a | Ovary and drupes pubescent; 2 inner petals bifid | |
| 10a | Leaves densely ferruginous lanuginous or pilose. | Petiole slender, 2.5–6.5(–10) cm, base terete, swollen; leaves clustered terminally. |
| 11a | Leaves membranous or papery, adaxially pubescent, at least sparsely so; 2 inner petals 2-lobed | |
| 12a | Leaves leathery, abaxially glabrous except on midvein and lateral veins; 2 inner petals bifid to half | |
| 13a | Leaves densely ferruginous lanuginous or pilose. | Petiole stouter, usually shorter than 2.5 cm, base not swollen; leaves scattered on branches. |
| 14a | Leaves leathery, abaxially glabrous; flowers ca. 2 mm in diam., 2 inner petals entire | |
| 15a | Petiole narrowly winged, adaxially glabrous; 2 inner petals 2-lobed | |
| 16a | Petiole densely pubescent, adaxially scattered pubescent; 2 inner petals bifid to half | Petiole casually winged, adaxially pubescent. |


Trees to 8 m tall, deciduous. Leaves simple; petiole (0.2–)1–2 cm, sometimes narrowly winged; leaf blade obovate-cuneate or narrowly obovate, 8–12 × 2.5–4 cm, papery, abaxially white hairy, adaxially pubescent, lateral veins 8–20 pairs, straight, more than 1/3 of them into teeth, crinite in vein axils, attenuate from middle to base, base cuneate or decurrent, margin more than 3/4 serrate, apex shortly acuminate. Panicle terminal, erect, 15–20 cm long and wide, pubescent, branched 3–4 times. Sepals 5, broadly ovate, ovate, or ovate-oblong, each 1.5 mm, ciliate. Petals white or greenish yellow: 3 outer ones suborbicular, or ovate-oblong, ca. 1 mm in diam.; 2 inner ones ca. 0.5 mm, bifid to half; lobes narrowly ovate, ovate, or ovate-oblong cili ate. Stamens 1.5–1.8 mm. Disk 5-dentate. Pistil ca. 1.2 mm; ovary ca. 0.8 mm high. Drupe compressed-globose, 6–7 mm in diam.; endocarp triangular-ovoid, midrib prominent. Fl. May–Jul, fr. Sep–Nov.


泡花树 pao hua shu

Shrubs or trees, to 9 m tall, deciduous. Bark black-brown; branches dull black, pubescent. Leaves simple; petiole (0.2–)1–2 cm, sometimes narrowly winged; leaf blade obovate-cuneate or narrowly obovate, 8–12 × 2.5–4 cm, papery, abaxially white hairy, adaxially pubescent, lateral veins 16–20 pairs, straight, more than 1/3 of them into teeth, crinite in vein axils, attenuate from middle to base, base cuneate or decurrent, margin more than 3/4 serrate, apex shortly acuminate. Panicle terminal, erect, 15–20 cm long and wide, pubescent, branched 3–4 times. Sepals 5, broadly ovate, ovate-oblong, each 1.5 mm, ciliate. Petals white or greenish yellow: 3 outer ones suborbicular, or ovate-oblong, ca. 1 mm in diam.; 2 inner ones ca. 0.5 mm, bifid to half; lobes narrowly ovate, ovate, or ovate-oblong ciliate. Stamens 1.5–1.8 mm. Disk 5-dentate. Pistil ca. 1.2 mm; ovary ca. 0.8 mm high. Drupe compressed-globose, 6–7 mm in diam.; endocarp triangular-ovoid, midrib prominent. Fl. May–Jul, fr. Sep–Nov.


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This species is used medicinally and as a source of good timber.

1a. Petiole slender, 10–20 mm, leaf base not decurrent, adaxially pubescent; panicle 15–20 cm ................................. 2a. var. cuneifolia

1b. Petiole stout, 2–15 mm, leaf base decurrent, adaxially subglabrous; panicle 16–30 cm ................................. 2b. var. glabriuscula

2a. Meliosma cuneifolia var. cuneifolia
泡花树(原变种) pao hua shu (yuan bian zhong)

Meliosma dilenifolia (Wallich ex Wight & Arnott) Walpers subsp. cuneifolia (Franchet) Beusekom; M. platypoda Rehder & E. H. Wilson.

Petiole slender, 10–20 mm; leaf blade adaxially pubescent, base not decurrent. Panicle 15–20 cm.


光叶泡花树 guang ye pao hua shu

Meliosma cuneifolia var. multinervia (Beusekom) Y. W. Law ex C. Y. Chang; M. dilenifolia var. multinervia Beusekom; M. mairei Cufodontis.

Petiole 2–15 mm, glabrous or sparsely pubescent, narrowly winged; leaf blade 10–24 × 4–10 cm, adaxially subglabrous, base decurrent. Panicle 16–30 cm.


细花泡花树 xi hua pao hua shu

Meliosma dilatata Diels.

Shrubs or small trees, to 10 m tall, deciduous. Bark gray, smooth. Leaves simple; petiole 5–15 mm; leaf blade adaxially dark green and nitid, obovate, 6–11 × 3–7 cm, papery, abaxially sparsely pubescent, crinate in axes of lateral veins, adaxially sometimes pubescent on midvein, lateral veins 8–15 pairs, straight or not, branched far away from margin, terminal veins running into teeth, base obtuse, margin serrulate or basally entire, apex narrowly acuminate. Panicle terminal, erect, 15–25 cm, pubescent; branches flat, long and slender, axis 3-angulate. Pedicel short. Flowers ca. 3 mm in diam. Sepals 5, broadly ovate or orbicular, ca. 0.5 mm wide, ciliolate. Petals white: 3 outer ones orbicular, ca. 1 mm in diam., ciliate; 2 inner ones ca. 0.5 mm, bifid to half at an obtuse angle; lobes ciliate. Stamens ca. 1 mm. Ovary pubescent. Drupe globose, 5–6 mm in diam.; endocarp compressed-globose, midrib prominent. Fl. summer, fr. Sep–Oct.

- Jungles, streamsides in forests; 100–1200 m. Henan, W Hubei, S Jiangsu, Sichuan, Xizang, N Zhejiang.


垂枝泡花树 chui zhi pao hua shu

Meliosma dilenifolia (Wallich ex Wight & Arnott) Walpers subsp. flexuosa (Pampanini) Beusekom; M. pendens Rehder & E. H. Wilson.

Trees small, to 5 m tall, deciduous. Buds, young branches, midveins of young leaves, and peduncles slightly brownish pilose, usually with 2 buds in leaf axil. Leaves simple; petiole 5–20 mm, concave adaxially, base slightly enlarged; leaf blade obovate or obovate-elliptic, 6–12(–20) × 3–3.5(–10) cm, membranous, both surfaces sparsely pubescent, lateral veins 12–18 pairs, attenuate from middle to base, margin serrate, apex acuminate or abruptly acuminate. Panicle terminal, pendulous, 12–18 × 7–22(–25) cm; peduncle and branches zigzag. Pedicel 1–3 mm. Flowers 3–4 mm in diam. Sepals 5, ovate or broadly ovate, 1–1.5 mm, outer one very small, ciliate. Petals white: 3 outer ones suborbicular, 2.5–3 mm wide; 2 inner ones ca. 0.5 mm, bifid to half at an obtuse angle; apex of lobes ciliate, sometimes 3-lobed, and middle lobe very small. Fertile stamens 1.5–2 mm. Pistil ca. 1 mm; ovary glabrous. Drupes obovoid, ca. 5 mm; endocarp oblique, midrib prominent. Fl. May–Jun, fr. Jul–Sep.


多花泡花树 duo hua pao hua shu

Trees to 20 m tall, deciduous. Bark grayish brown; young branches and petioles brownish pubescent. Leaves simple; petiole 5–15 mm; leaf blade obovate-elliptic, obovate-oblong, or oblong, 8–30 × 3.5–12 cm, membranous or papery, young leaves abaxially sparsely pubescent or densely pilose, crinate in axis of lateral veins, adaxially sparsely pubescent, then glabrous, lateral veins (10–)20–25 pairs, straight, running into teeth, base obtuse, margin serrate or basally entire, apex sharply acuminate. Panicle terminal, erect, 15–25 cm, pubescent; branches flat, long and slender, axis 3-angulate. Pedicel short. Flowers ca. 3 mm in diam. Sepals 4 or 5, ovate or broadly ovate, ca. 1 mm, apex rounded, ciliate. Petals: 3 outer ones suborbicular, ca. 1.5 mm in diam.; 2 inner ones lanceolate, ca. 1.5 mm, entire. Fertile stamens 1–1.2 mm. Pistil ca. 2 mm; ovary glabrous. Drupe obovoid or globose, 4–5 mm in diam.; endocarp compressed-globose, midrib slightly prominent. Fl. summer, fr. May–Sep.

Humid forests, moist mountain forests, valleys, streamsides; below 2000 m. Anhui, Fujian, N Guangdong, NE Guangxi, N to SC Guizhou, Henan, Hubei, Hunan, Jiangsu, Jiangxi, SW Shaanxi, Shandong, Sichuan, Zhejiang [Japan, S Korea].

1a. Leaves serrate along whole margin ...... 5a. var. myriantha
1b. Leaves not serrate along basal margin.

2a. Leaf blade abaxially sparsely pubescent or only on midvein and lateral veins,
5a. Meliosma myriantha var. myriantha

多花泡花树（原变种）

Leaves serrate along whole margin.

Moist mountain forests; below 600 m. Henan, N Jiangsu, Shandong [Japan, S Korea].

5b. Meliosma myriantha var. discolor

2b. Leaf blade abaxially densely pilose, adaxially ± pubescent, margin serrate from middle to apex, lateral veins 10–20 pairs; inflorescences sparsely pubescent. Margin serrate but not to base, lateral veins 12–22(–24) pairs; inflorescences sparsely pubescent.

5c. Meliosma myriantha var. pilosa (Lecomte) Y. W. Law

Leaf blade abaxially sparsely pubescent or only on mid-vein and lateral veins, lateral veins 12–22(–24) pairs, margin serrate but not to base. Inflorescences sparsely pubescent.


6. Meliosma paupera


狭序泡花树


Trees small or medium-sized, to 9 m tall, evergreen. Young branchlets pubescent, glabrous when old. Leaves simple; petiole 7–13 mm, concave and pubescent adaxially, narrowly winged; leaf blade oblanceolate or narrowly ovate, 5.5–14 × 1–3 cm, thinly leathery, abaxially pubescent and adaxially only on midvein, lateral veins 7–10 pairs, slender, ascending or running into teeth, attenuate to base, margin entire or sparsely 1–4-serrate from middle to apex, apex acuminate. Panicle terminal, 7–14 cm, 3(or 4) × branched, sparsely pubescent. Pedicel ca. 1 mm or flowers subsessile. Flowers ca. 1 mm in diam. Sepals 5, broadly ovate, ca. 0.7 mm, 2 outer ones smaller and narrower, ciliate. Petals: 3 outer ones broadly ovate or orbiculate, ca. 1 mm wide; 2 inner ones ca. 0.6 mm, slightly bifid at an obtuse angle, apex rounded, ciliate. Stamens ca. 0.7 mm. Pistil nearly equal to stamens; ovary glabrous. Drupe globose, 4–5 mm in diam.; endocarp subglobose, 3–4 mm in diam., midrib slightly prominent. Fl. summer, fr. Aug.–Oct.

Jungles, forests, valleys, stream-sides; 200–1500 m. N and W Guangdong, Guangxi, S Guizhou, S Jiangxi, SE Yunnan [Vietnam].

7. Meliosma bifida


双裂泡花树

Meliosma bifida

Trees to 15 m tall. Branchlets slender, pubescent. Leaves simple; petiole 0.5–1.5 cm, brownish pubescent; leaf blade narrowly elliptic or obovate-elliptic, 6–10 × 2–3 cm, thinly leathery, both surfaces brownish pubescent, densely so on midvein, lateral veins 7–11 pairs, slender, ascending, arching-anastomosing near margin, reticulate veins fine, base cuneate, slightly oblique, margin entire, apex acute or caudate-acuminate. Panicle terminal or axillary, brownish pubescent, 5–8 × ca. 3 cm, branched 2(or 3) times; lateral branches slender, near axis. Pedicel 0.5–2 mm, brownish pubescent; upper flowers subsessile; bracts 1–1.5 mm, densely brownish pubescent, ciliate. Flowers ca. 2 mm in diam. Sepals 5, ovate or suborbicular, 1–1.3 mm, outer one smaller and narrower. Petals white: 3 outer ones suborbicular, ca. 2 mm wide; 2 inner ones ca. 0.7 mm, bifid to middle and below; lobes linear, nearly parallel, apex ciliate. Fertile stamens ca. 1 mm. Disk cup-shaped, 5-crenate. Pistil ca. 1 mm; style ca. as long as ovary, 2-lobed. Fruit unknown. Fl. Jun–Jul, fr. unknown.

- Forests; ca. 2000 m. S Yunnan.

8. Meliosma thomsonii

King ex Brandis, Indian Trees, 195. 1906.

西南泡花树

Meliosma thomsonii

Trees to 12 m tall, evergreen. Branchlets, petioles, abaxial surface of leaves, and inflorescences densely brownish velutinous. Leaves simple; petiole 2–4 cm, stout; leaf blade obovate-oblong or obovate-elliptic, 18–37 × 7–16 cm, leathery, abaxially densely lanuginous, adaxially pubescent on midvein and lateral veins, lateral veins 16–20 pairs, ascending and arched to margin, upper ones running into teeth, base attenuate to cuneate, margin sparsely serrate at and above middle, apex acute to acuminate. Panicle terminal, to 30 cm, branched 3(or 4) times. Flowers ca. 2 mm, nearly sessile. Sepals 5, ovate to broadly ovate, 1–1.2 mm, abaxially pubescent, ciliate, with 4 or 5 bracts outside. Pedals light yellow: 3 outer ones suborbicular, ca. 1.5 mm in diam.; 2 inner ones ca. 1 mm, bifid to half at an obtuse angle; lobes subovate, ± ciliate. Fertile stamens ca. 1.2 mm. Disk very shallow, acutely 5-toothed. Pistil 1–1.2 mm; ovary ovoid, glabrous; style shorter than ovary. Drupe compressed-globose, 7–8 mm in diam.; endocarp subrounded, slightly oblique, irregularly distinctly projecting, midrib prominent.

疏枝泡花树  shu zhi pao hua shu

Meliosma depauperata Chun ex F. C. How; *M. lepidota* Blume subsp. *longipes* (Merrill) Beusekom.

Shrubs or small trees, ca. 1 m tall or more, evergreen. Branchlets glabrous. Leaves simple, usually clustering terminally; petiole 3.5–10 cm, shallowly grooved; leaf blade abaxially pale green turning grayish brown when dried, adaxially deep green turning brown when dried, narrowly obovate or oblanceolate, rarely narrowly elliptic, 15–25 × 4–9 cm, subleathery, midvein and lateral veins concave and sparsely pubescent, lateral veins 15–18 pairs, ascending, Anastomosing, reticulate veins sparse, base acute to cuneate, margin entire, apex acute to acuminate or cuspidate. Panicle terminal or axillary on apical branches, 10–200 cm, sparsely branched, slightly pubescent. Pedicel 1–1.5(–3) mm, sometimes flowers sessile. Drupe subglobose or obovoid, 8–10 mm in diam.; fruiting pedicel 1–3 mm, stout, puberulent; endocarp subglobose, somewhat oblique, convex, with sparse, scattered netlike strips, midrib distinctly projecting. Fl. summer, fr. Aug–Sep.

Wet subtropical jungles, evergreen broad-leaved forests; below 1200 m. SW Guangdong, Guangxi, Yunnan [Vietnam].


樟叶泡花树  zhang ye pao hua shu

Meliosma lepidota Blume subsp. *squamulata* (Hance) Beusekom; *M. lutchuensis* Koidzumi.

Trees small, to 15 m tall, evergreen. Young branches and buds brownish pubescent, glabrous when old. Leaves simple; petiole 2.5–6.5 cm, rarely to 10 cm, slender; leaf blade abaxially pale, adaxially nitid, elliptic or ovate, 5–12 × 1.5–5 cm, thinly leathery, abaxially densely brown squamellate, adaxially glabrous, lateral veins 3–5 pairs, ascending, Anastomosing, base cuneate, margin entire, apex acute to acuminate or with an obtuse tip. Panicle terminal or axillary, solitary or 2–8-clustered, 7–20 cm, axes, branches, pedicels, and bracts densely brownish pubescent. Pedicel to 3 mm, sometimes flowers sessile. Flowers ca. 3 mm in diam. Sepals 5, ovate, ciliate. Petals white: 3 outer ones suborbicular, ca. 2.5 mm in diam.; 2 inner ones equal to filaments, 2-parted at an obtuse angle; lobes narrow and acute. Pistil ca. 2 mm; style equal to ovary; ovary glabrous. Drupe globose, 4–6 mm in diam.; endocarp globose, slightly oblique, convex, with conspicuous, scattered netlike strips, midrib projecting. Fl. summer, fr. Sep–Oct.

Evergreen broad-leaved forests; below 1800 m. S Fujian, Guangdong, Guangxi, Hainan, S Hunan, S Jiangxi, Taiwan, Yunnan, Zhejiang [Japan].


灌丛泡花树  guan cong pao hua shu

Meliosma dumicola var. *serrata* Vidal; *M. lepidota* Blume subsp. *dumicola* (W. W. Smith) Beusekom; *M. tsangtakii* Merrill.

**Guanxi, Guizhou, W Hubei, E Sichuan, C and S Yunnan.**

Open jungles, densely wooded ravines; (1200–)1400–1900(–2400) m. Guangdong, Hainan, SW Yunnan [Thailand, N Vietnam].

**15. Meliosma callicarpifolia** Hayata, Icon. Pl. Formosan. 3: 68. 1913 ["callicarpaeifolia"].

**Mao hua nan pao hua shu**

**Guanxi, Guangdong, Hainan, S Xizang, SW Yunnan [Vietnam].**

Trees to 30 m tall, evergreen. Young branches, buds, abaxial surface of young leaves, petioles, and inflorescences brownish pilose; branchlets grayish brown. Leaves simple; petiole 1.5–4 cm, narrowly concave; leaf blade abaxially light brown when dry, narrowly elliptic, narrowly obovate-elliptic, or elliptic, 5–15–(–18) × 1.5–5 cm, leathery, abaxially sparsely pilose, adaxially glabrous, midvein and lateral veins concave adaxially when dry, lateral veins 7–10 pairs, slightly ascending, anastomosing near margin, base cuneate, margin entire or serrate, apex abruptly narrowed, linear-caudate, rarely acuminate. Panicle terminal and solitary, or 2–4–clustered at branch apices, sometimes axillary near branch apices, erect, 10–16 cm, branched 3 times, lower branches 4–7 cm. Petioles ca. 2 mm in diam. Sepals 5, ovate, ca. 1 mm, apex rounded, 2 outer ones smaller and narrower, ciliate. Petals yellowish white: 3 outer ones suborbicular, ca. 1.5 mm in diam.; 2 inner ones lanceolate, slightly longer than fertile stamens. Ovary subglobose, ca. 0.6 mm in diam., glabrous; style slightly longer than ovary. Drupe obovoid, 3–4 mm in diam.; endocarp convex, with inconspicuous, scattered netlike strips, midrib narrowly narrow. Fl. Mar–May, Oct–Nov.


**Mao hua nan pao hua shu**

**Guanxi, Guangdong, Hainan, S Xizang, SW Yunnan [Vietnam].**

Trees small, to 7 m tall, evergreen. Buds, young branches, abaxial surface of leaves, petioles, inflorescences, and outsides of sepals densely brownish lanuginous; branchlets light gray, shallowly grooved. Leaves simple; petiole 1–4 cm; leaf blade elliptic, elliptic-oblanceolate, or oblong-oblanceolate, 7–14–(–25) × 2.5–5.5(–9) cm, leathery, adaxially subglabrous except on midvein and lateral veins, lateral veins 9–13 pairs, anastomosing near margin, base cuneate or rounded, margin entire, apex acuminate, with a sharp tip. Panicle terminal, 15–25 cm, elongating, branched 3 times, lateral branches explanate. Flowers aromatic, dense on tertiary branches, ca. 3 mm in diam., sessile. Sepals 5, ovate, ca. 2 mm. Petals yellow: 3 outer ones broadly ovate, ca. 3 mm; 2 inner ones ca. 0.7 mm, bifid nearly to half at an acute angle, apex ciliate. Stamens ca. 1 mm; filaments of fertile stamens equal to inner petals; anthers broader than long; connectives enlarged, peltate. Pistil ca. 1.5 mm; ovary 1.5–2 × shorter than style, glabrous. Drupe obovoid or subglobose, 8–12 mm in diam.; endocarp slightly laterally flattened, with coarse, scattered netlike strips, midrib sharply prominent. Fl. Mar–Apr, fr. Jul–Aug.

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3) times. Flowers 3–3.5 mm in diam., subsessile. Sepals 5, ovate, 1–1.2 mm, outer ones smaller, pubescent, ciliate. Petals white: 3 outer ones suborbicular, ca. 2 mm in diam.; 2 inner ones ca. 0.8 mm, 2-lobed; lobes triangular, ciliate near apex. Fertile stamens ca. 1.5 mm. Disk shallowly cup-shaped, dentate. Pistil ca. 1.7 mm; ovary ovoid, glabrous. Fruit unknown. Fl. Apr–May, fr. unknown.

Broad-leaved forests; 500–1500 m. N Guangdong, Guangxi, S Yunnan [Vietnam].

Beusekom (Blumea 19: 355–529. 1971) treated this taxon as a synonym of Meliosma simplificolia.


笔罗子 bi luo zi

Trees to 7 m tall, evergreen. Buds, young branches, abaxial midveins, and inflorescences ferruginous lanuginous, pilose, or tomentose, pubescence persistent after 2 or 3 years. Leaves simple; petiole 1.5–4 cm; leaf blade oblanceolate or narrowly obovate, 8–25 × 2.5–4.5 cm, leathery, abaxially ferruginous pubescent, sparsely pilose, or densely tomentose, adaxially glabrous except on midvein and lateral veins, lateral veins 9–18 pairs, base attenuate from 1/3 or 1/2 downward to base, margin coarsely serrate, sometimes entire, apex acuminate or caudate-acuminate. Panicle terminal, 10–30 cm; axis erect, triangular, branched 3 times. Pedicel ca. 2 mm. Flowers dense on tertiary branches, (2–)3–4 mm in diam. Sepals 4 or 5, ovate or suborbicular, 1–1.5 mm, pubescent at abaxial base, ciliate. Petals: 3 outer ones white or light yellow, suborbicular, 2–2.5 mm; 2 inner ones white, ca. 0.5 mm, bifid to half at an obtuse angle; lobes linear. Petals ca. 0.7 mm. Pistil ca. 0.8 mm; ovary glabrous; style equal to ovary. Drupe globose, 5–8 mm; endocarp oblique, convex, with scattered netlike strips, midrib prominent. Fl. summer, fr. Sep–Oct.

Broad-leaved forests, mountain forests; below 1500 m. Fujian, Guangdong, Guangxi, Guizhou, Henan, Hubei, Jiangxi, Taiwan, S Yunnan, Zhejiang [Japan, Laos, Philippines, S Vietnam].

The hard wood is used for walking sticks, and the seeds for oil.

1a. Abaxial surface of leaf blade and inflorescences sparsely pilose .......................... 18a. var. rigida
1b. Abaxial surface of leaf blade and inflorescences densely tomentose .......... 18b. var. pannosa

18a. Meliosma rigida var. rigida

笔罗子(原变种) bi luo zi (yuan bian zhong)

Meliosma glomerulata Rehd. & E. H. Wilson; M. patens Hemsley; M. rigida var. patens (Hemsley) Cufodontis; M. simplificolia (Roxburgh) Walpers subsp. rigida (Siebold & Zuccarini) Beusekom.

Leaf blade abaxially and inflorescences sparsely pilose.

Broad-leaved forests; below 1500 m. Fujian, Guangdong, Guangxi, Guizhou, Henan, SW Hubei, Hunan, Jiangxi, Taiwan, S Yunnan, Zhejiang [Japan, Laos, Philippines, S Vietnam].


18b. Meliosma rigida var. pannosa

毡毛泡花树 zhan mao pao hua shu


- Mountain forests; below 800 m. S Fujian, N Guangdong, NE Guangxi, SE Guizhou, Hubei, S Hunan, S Jiangxi, Zhejiang.


香皮树 xiang pi shu

Trees to 10 m tall, evergreen. Bark gray; branchlets, petioles, abaxial surface of leaf blade, and inflorescences brownish pubescent. Leaves simple; petiole 1.5–3.5 cm, sparsely pubescent; leaf blade adaxially ntid, oblanceolate to lanceolate, or narrowly obovate to narrowly elliptic, 9–18(–25) × 2.5–(8) cm, subleathery, adaxially pubescent on midvein and lateral veins, lateral veins 11–20 pairs, base narrowly cuneate, elongated, margin entire or somewhat serrate near apex, apex acuminate, rarely obtuse. Panicle terminal or subterminal, 10–40 cm, broad, branched 3 or 4(or 5) times. Pedicel 1–1.5 mm or flowers subsessile. Flowers 1–1.5 mm in diam. Sepals 4(or 5), broadly ovate, ca. 0.5 mm, abaxially sparsely pubescent, ciliate. Petals: 3 outer ones suborbicular, ca. 1.5 mm in diam.; 2 inner ones ca. 0.5 mm, bifid to half at an obtuse angle; lobes linear. Stamens ca. 0.7 mm. Pistil ca. 0.8 mm; ovary glabrous; style equal to ovary. Drupe subglobose or compressed-globose, 3–5 mm in diam.; endocarp convex, with distinct, scattered netlike strips, midrib prominent. Fl. May–Jul, fr. Aug–Oct.

Evergreen tropical and subtropical forests, forested ravines; below 1000 m. Fujian, Guangdong, Guangxi, Guizhou, Hainan, S Hunan, S Jiangxi, Yunnan [Cambodia, Laos, Thailand, Vietnam].

This species is used medicinally.

1a. Young branches, petioles, abaxial surface of leaf blade, and inflorescences sparsely pubescent; leaf blade oblanceolate or lanceolate .................................................. 19a. var. fordii
1b. Young branches, petioles, abaxial surface of leaf blade, and inflorescences densely pilose; leaf blade narrowly obovate or narrowly elliptic .................................................. 19b. var. sinii

19a. Meliosma fordii var. fordii

香皮树(原变种) xiang pi shu (yuan bian zhong)


Young branches, petioles, abaxial surface of leaf blade, and inflorescences sparsely pubescent. Leaf blade oblanceolate or lanceolate.
Evergreen tropical and subtropical forests, thickets, forested ravines; below 1000 m. Fujian, Guangdong, Guangxi, Guizhou, Hainan, S Hunan, S Jiangxi, Yunnan [Cambodia, Laos, Thailand, Vietnam].


辛氏泡花树  xin shi pao hua shu


Young branches, petioles, abaxial surface of leaf blade, and inflorescences densely pilose. Leaf blade narrowly obovate or narrowly elliptic. Panicle narrowly pyramidal. Pedicels short or flowers subsessile near branch apices.

- Evergreen broad-leaved forests; ca. 1000 m. C Guangdong, E Guangxi, Guizhou.


云南泡花树  yun nan pao hua shu

Meliosma fischeriana Rehder & E. H. Wilson; M. simplifolia (Roxburgh) Walpers subsp. yunnanensis (Franchet) Beusekom; M. yunnanensis var. fischeriana (Rehder & E. H. Wilson) C. Y. Chang.

Trees to 30 m tall, evergreen. Bark gray; young branches sparsely pubescent. Leaves simple; petiole 6–10 mm, base enlarged, densely short lanuginous and persistently pubescent when old; leaf blade narrowly obovate-elliptic, obovate-lanceolate, or oblong-lanceolate, 4–15 × 2–6 cm, leathery, sparsely pubescent abaxially and crinite at vein axils, lateral veins 6–10 pairs, ascending to margin, attenuate from lower 2/3 to base, narrowly cuneate, margin sparsely spinose-serrate from middle to apex, apex cuspidate to ciliate. Panicle terminal or axillary at apices of branches, 4–10 cm, narrow, branched 2(or 3) times, yellowish pubescent; bracts lanceolate, pubescent. Flowers 3–4 mm in diam., subsessile. Sepals 5, suborbicular, 2–2.3 mm in diam., ciliate. Petals white or pale yellow; 3 outer ones suborbicular, 2–2.5 mm in diam.; 2 inner ones equal to fertile stamens, bifid; lobes ovate, ciliate. Fertile stamens ca. 2 mm. Pistil 2–2.5 mm; ovary glabrous; style equal to ovary or slightly shorter. Flowers aromatic, subsessile, dense; buds ca. 2 mm in diam. Sepals 5, ovate, ciliate. Petals: 3 outer ones suborbicular, ca. 2 mm in diam.; 2 inner ones slightly shorter than filaments, bifid. Fertile stamens ca. 1.8 mm; connectives orbicular-peltate. Pistil ca. 2 mm; ovary yellowish pubescent. Drupe obovoid, 4–6 mm; endocarp convex, with scattered netlike strips, midrib prominent. Fl. May–Jun–Oct.

- Valleys, wooded ravines, low mountains; below 1500 m. S Guangdong, S Guangxi, Hainan, SE Yunnan.

This species is a good source of timber.


漆叶泡花树  qi ye pao hua shu

Trees medium-sized, evergreen. Leaves odd pinnate, axis somewhat pilose abaxially; petiolules ca. 1 cm; leaflets 11–15, abaxially gray or pale green, adaxially dark green and nitid, narrowly ovate, ovate-lanceolate, or obovate-elliptic, 3–15 × 2–3.5 cm, leathery, both surfaces glabrous or crinite at vein axes abaxially, lateral veins (6–)9–13 pairs, slightly ascending, anastomosing 2–5 mm from margin, basally rounded or broadly cuneate, margin sparsely spinose-serrulate or entire, apex acuminate or ciliate or truncate-acuminate. Panicle terminal or axillary on upper branches, ca. 25 × 20 cm, ferruginous pubescent, soon glabrescent, branched 3(or 4) times, axis triangular, lateral branches flat. Pedicel short. Sepals 5, ovate, ca. 1 mm, outer ones narrower, ciliate. Petals white: 3 outer ones flat-orbicular, 2 × 2.2 mm; 2 inner ones ca. 1/2 as long as filament, bifid, lobes fringed. Fertile stamens ca. 1.5 mm. Disk shallowly cup-shaped, 5-toothed. Pistil ca. 1.7 mm; ovary pubescent; style slightly longer than ovary. Drupe subglobose, 4–6 mm in diam.; endocarp convex, with scattered netlike strips, midrib slightly prominent. Fl. May–Jun, fr. Aug–Oct.

Evergreen broad-leaved forests; below 1800 m. Fujian, N Guangdong, NE Guangxi, E Guizhou, S and W Hunan, E Jiangxi, C and N Taiwan, SW Zhejiang [Japan (Ryukyu Islands)].

1a. Leaflet blade abaxially with lateral vein 
axils not crinite ........................................ 22a. var. rhoifolia

1b. Leaflet blade abaxially with lateral vein 
axils yellowish crinite ........................... 22b. var. barbulata

22a. Meliosma rhoifolia var. rhoifolia

漆叶泡花树(原变种) qi ye pao hua shu (yuan bian zhong)

Leaflet blade abaxially with lateral vein axils not crinite.

Evergreen broad-leaved forests; below 1800 m. C and N Taiwan [Japan (Ryukyu Islands)].


腋毛泡花树 ye mao pao hua shu

Leaflet blade abaxially pale, lateral veins 6–9 pairs, axes cristate.

Evergreen broad-leaved forests; 400–1100 m. Fujian, N Guandong, NE Guangxi, E Guizhou, S and W Hunan, E Jiangxi, SW Zhejiang.


山青木 shan qing mu

Trees to 16 m tall, deciduous. Young branches light red, pubescent. Leaves odd pinnate, 12–50 cm; leaflets 7–15, abaxially pale, adaxially dark green, ovate on lower axes, narrowly oblong or narrowly oblong at middle, narrowly elliptic at apices, 4–5 × 1.5–4.5 cm, papery, abaxially pilose on veins, adaxially glabrous except on midvein and lateral veins, lateral veins 6–15 pairs, ascending, anastomosing 3–5 mm from margin, crinete on vein axes, base usually broadly rounded, margin spinose-serate, apex acuminate. Terminal end of axis or axillary at apices of branches, 15–20 cm, axis triangular, branched 3 times, brown pubescent. Pedicel 1.2–1.5 mm. Flowers ca. 1.5 mm; ovary pubescent; style equal to ovary. Drupe globose, 3–5 mm in diam., convex, with coarse, scattered netlike strips, midrib obscurely prominent. Fl. Jun–Jul, fr. Aug–Oct.


南亚泡花树 nan ya pao hua shu

*Millingtonia pinnata* Roxburgh, Fl. Ind. 1: 103. 1820.

Trees to 15 m tall, evergreen or deciduous. Leaves odd pinnate; leaflets 11–25, lanceolate on lower axis, lanceolate or narrowly oblong on mid-axes, terminal one suboblancoleolate, 7–17 × 2–4 cm, papery or subleathery, both surfaces nearly glabrous, lateral veins 10–14 pairs, somewhat ascending, arching-anastomosing 2–5 mm from margin, base cuneate or broadly cuneate, margin sparsely serrate or nearly entire, apex caudate-acuminate. Panicle erect, 10–55(–70) cm, pubescent, axis long cuneate, margin sparsely serrate or nearly entire, apex caudate-acuminate. Drupe globose, 4–5 mm in diam.; endocarp globose, convex, with coarse, scattered netlike strips, midrib prominent. Fl. May–Jun, fr. Sep–Oct.

Evergreen broad-leaved forests; 1000–1500 m. S Xizang [Bangladesh, Bhutan, NE India, N Myanmar].


山青木 shan qing mu

Trees to 16 m tall, deciduous. Young branches light red, pubescent. Leaves odd pinnate, 12–50 cm; leaflets 7–15, abaxially pale, adaxially dark green, ovate on lower axes, narrowly oblong or narrowly oblong at middle, narrowly elliptic at apices, 4–5 × 1.5–4.5 cm, papery, abaxially pilose on veins, adaxially glabrous except on midvein and lateral veins, lateral veins 6–15 pairs, ascending, anastomosing 3–5 mm from margin, crinete on vein axes, base usually broadly rounded, margin spinose-serate, apex acuminate. Terminal end of axis or axillary at apices of branches, 15–20 cm, axis triangular, branched 3 times, brown pubescent. Pedicel 1 mm. Flowers ca. 3 mm in diam. Sepals 5, elliptic-ovate, 1–1.2 mm, 2 outer ones smaller, pubescent abaxially, ciliate. Petals yellow: 3 outer ones flat-orbicular, ca. 2.5 mm wide, 5–7 veins distinct; 2 inner ones subequal to filaments, 3-lobed, midlobe very small, lateral lobes very small, lateral lobes ovate, ciliate. Fertile stamens 1.2–1.5 mm. Pistil ca. 1.5 mm; ovary pubescent; style equal to ovary. Drupe globose, 3–5 mm in diam., convex, with coarse, scattered netlike strips, midrib obscurely prominent. Fl. Jun–Jul, fr. Aug–Oct.


腺毛泡花树 xian mao pao hua shu

Trees to 15 m tall, evergreen. Branchlets brown, glabrous. Leaves odd pinnate, ca. 40 cm; leaflets 7–9, abaxially pale, adaxially black-brown when dry, ovate on lower axis, ovate or oblong-ovate at middle, elliptic terminally, 5–12 × 2.5 mm, 5–7 veins distinct; 2 inner ones subequal to filaments, 3-lobed, midlobe very small, lateral lobes ovate, ciliate. Fertile stamens 1.2–1.5 mm. Pistil ca. 1.5 mm; ovary pubescent; style equal to ovary. Drupe globose, 4–5 mm in diam.; endocarp compressed-globose, with scattered netlike strips, midrib distinctly prominent. Fl. summer, fr. Aug–Oct.

Evergreen broad-leaved forests in mountains; 400–1400 m. N
Meliosma oldhamii

**Flora of China 12: 32–42. 2007.**


**Red柴枝** hong chai zhi

Trees to 20 m tall, deciduous. Axillary buds globose or compressed-globose, densely light brownish pubescent. Leaves odd pinnate, 15–30 cm, axis, petiolules and both surfaces of leaflets brownish pubescent; leaflets 7–15, ovate on lower axis, 3–5 cm, oblong-ovate or narrowly ovate at middle, terminal one obovate or oblong-ovobvate, 5.5–8(–10) × 2–3.5 cm, thinly papery, abaxially pubescent or subglabrous, adaxially shortly pubescent, lateral veins 7 or 8 pairs, ascending, arched-anastomosing near margin, crinete at vein axils, base rounded or broadly or narrowly cuneate, margin sparsely acutely serrate, apex acute or acute-acuminate. Panicle terminally, erect, 15–30 cm long and wide, branched 3 times, brownish pubescent. Pedicel 1–1.5 mm. Sepals 5, elliptic-ovate, ca. 1 mm, outer ones narrower, ciliate. Petals white: 3 outer ones suborbicular, ca. 2 mm in diam.; 2 inner ones slightly shorter than filaments, bifid to half, sometimes 3-lobed and middle one very small, lateral lobes narrowly obovate, ciliate. Fertile stamens ca. 1.5 mm. Ovary equal to style, yellow pubescent. Drupe globose, 4–5 mm in diam.; endocarp convex, with distinct, scattered netlike strips, midrib conspicuously prominent. Fl. May–Jun, fr. Aug–Sep.

Valley forests, mountain forests, humid mountain slopes; 300–1900 m. Anhui, Fujian, N Guangdong, Guangxi, Henan, Hubei, Hunan, Jiangsu, Jiangxi, S Shaanxi, Yunnan, Zhejiang [Japan, S Korea].

1a. **Leaflets abaxially densely or sparsely pubescent or subglabrous** ....................... 27a. var. oldhamii

1b. **Leaflets sparsely shortly claviform-glandulous** ....................... 27b. var. glandulifera

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27a. Meliosma oldhamii var. oldhamii

**Red柴枝()** hong chai zhi (yuan bian zhong)


Leaflets densely or sparsely pubescent or subglabrous abaxially.

Valley forests, humid mountain slopes; 300–1300 m. Anhui, Fujian, N Guangdong, NE Guangxi, Guizhou, Henan, Hubei, Jiangsu, Jiangxi, S Shaanxi, Yunnan, Zhejiang [Japan, S Korea].


**有腺泡花树** you xian pao hua shu

Leaflets sparsely shortly claviform-glandulous.

- Mountain forests; 1200–1900 m. Anhui, Guangxi, Hunan, Jiangxi.

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**珂南树** ke nan shu


Trees to 25 m tall, deciduous. Branches of current year brownish velutinous, 2-year-old branches light gray; both surfaces of leaflets, petiolules, and axes brownish pubescent when young. Leaves odd pinnate, 15–35 cm; petiolule of terminal leaflet articulate, well marked against axis; leaflets 5–13, ovate or narrowly ovate, apical ones ovate-elliptic, 5–15 × 2.5–3.5 cm, papery, lateral veins 8–10 pairs, anastomosing far away.
from margin, distinctly yellowish crinite at vein axils, base broadly cuneate or obtuse, oblique, margin sparsely serrulate, rarely nearly entire, apex acuminate. Panicle axillary at upper leaf-axil of branch, often clustering near branch apices, extending and pendulous, 12–30 cm (including peduncle 2–5 cm), branched 2(or 3) times, brownish pubescent. Sepals 4, ovate, 1.5–2 mm, coarsely ciliate, shortly acute or obtuse-rounded. Petals light yellow: 3 outer ones broadly reniform, apex concave, ca. 2 × 4 mm; 2 inner ones equal to filaments, bifid to 1/4. Fertile stamens ca. 2 mm. Pistil ca. 2.5 mm; ovary glabrous. Drupe globose, 6–7 mm in diam.; endocarp compressed-globose, smooth laterally, midrib obscurely prominent. Fl. May–Jun, fr. Aug–Oct.

Humid dense or sparse forests on mountains; 1000–2500 m. Fujian, NW Guizhou, Hubei, Hunan, Jiangxi, Sichuan, N Yunnan, Zhejiang [N Myanmar].

This species is a good source of timber for furniture.


暖木 nuan mu

*Meliosma longicalyx* Lecomte.

Trees to 20 m tall, deciduous. Young parts ± brownish pilose; branchlets robust, with suborbicular thick leaf scars. Leaves pinnate, 60–90 cm, axis terete, swollen at base; leaflets 7–11, ovate or ovate-elliptic, 7–15(–20) × 4–8(–10) cm, papery, persistently pubescent on veins or both surfaces, not crinite at vein axils, lateral veins 6–12 pairs, base rounded-obtuse, oblique, margin entire or coarsely serrate, apex acute or acuminate. Panicle terminal, erect, 40–45(–60) cm, branched 4(or 5) times; lenticels dense and large on axis or branches. Pedicel 0.5–3 mm, brown pubescent. Sepals 4(or 5), elliptic or ovate, 1.5–2.5 mm, outer ones narrower, apex obtuse. Petals white: 3 outer ones obcordiform, 1.5–2.5 × 1.5–3.5 mm; 2 inner ones ca. 1 mm, bifid to 1/3, lobes rounded at apex, ciliate. Stamens 1.5–2 mm. Drupe subglobose, ca. 1 mm in diam.; endocarp subglobose, smooth or with inconspicuous, scattered netlike strips, midrib distinctly prominent. Fl. May, fr. Aug–Sep.

- Humid dense or sparse forests; 1000–3000 m. S Anhui, NE Guizhou, Henan, Hubei, Hunan, S Shaanxi, Shanxi, Sichuan, N Yunnan, N Zhejiang.