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The Hunt Institute for Botanical Documentation, a research division of Carnegie Mellon University, specializes in the history of botany and all aspects of plant science and serves the international scientific community through research and documentation. To this end, the Institute acquires and maintains authoritative collections of books, plant images, manuscripts, portraits and data files, and provides publications and other modes of information service. The Institute meets the reference needs of botanists, biologists, historians, conservationists, librarians, bibliographers and the public at large, especially those concerned with any aspect of the North American flora.

Hunt Institute was dedicated in 1961 as the Rachel McMasters Miller Hunt Botanical Library, an international center for bibliographical research and service in the interests of botany and horticulture, as well as a center for the study of all aspects of the history of the plant sciences. By 1971 the Library's activities had so diversified that the name was changed to Hunt Institute for Botanical Documentation. Growth in collections and research projects led to the establishment of four programmatic departments: Archives, Art, Bibliography and the Library.

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NAME _____

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~~Notes on Myrsinaceae~~

~~1. Check on monophylla of Sargent's fascicle.
Stems of cordata - St. v. v. v.?~~

Ptelea Simm Syst. ed. I (1735)

Index
transmission
Vol. II
1885

Benth. + Hook. f. i. 301

Bellucia; Adams. Fam. ii 344 (1763)

angustifolia, Benth. Pl. Hartw. 9. - Am. bor. occ.
aptera, Pong. in Proc. Ransp. Acad. IV (1884) 39 -
Calif.

arbores, Benth. Fl. Filip. ed. I. 63 = *Harpullia*
cupanioides

Baldwinii, Torr. + Gray, Fl. N. Am. i, 215. - Am. bor.

Baldwinii, Young, Fl. Texas, 196 = *angustifolia*.

caroliniana, Walt. ex Steud. Nom. ed. II ii 412 = *trifoliata*

microphylla, D. Dietr. Syn. Pl. i, 497 = *trifoliata*

mollis, M. A. Ant. in Am. Jour. Sc. Ser. II VII (1894)

406 = *trifoliata*

monophylla, Lam. Illust. i, 336 = *trifoliata*

ovata, Lour. Fl. Cochinch. 82 = *Ptelidimum ovatum?*

parvifolia, A. Gray, ex Hemsl. Biol. Centr. Am. Bot.
i, 170. - Mexic.

pentandra (Moc. + Sesse) ex DC Prod. ii 83. - Mexic.

pentaphylla, Murchb. Hortic. v. 242 = *trifoliata*

pinnata, Linn. f. Suppl. 126 = *Zanthoxylum*

Blackburnia

podocarpa, D. C. Prod. ii. 83. - Mexic.

trifoliata, Rafin. Fl. Sudor. 108 = trifoliata

trifoliata, Boland, Cat. 7 = angustifolia

trifoliata, Linn. Sp. Pl. 116 = An. Br.

trifoliolata, [Moc. + Less.] ex DC. Prodr.

n. 83. - = podocarpa

viscosa, Linn. Sp. Pl. 118 = Dodonaea viscosa

niticifolia, Labr. Prodr. 68 = trifoliata.

Andes

Kenia

Suppl.

P. angustifolia

1. Dimensions -

Diameter of petiole at joint - 5 mm.

Length of sepal - about 1.5 mm.

Length of filament 3.0 mm.

" " petal 4.0 mm.

" " pistil 2.0 mm.

Two stigma lobes -

② but about the node just under receptacle? This one has it.

The filaments are glabrous - swollen for basal $\frac{1}{2}$, gradually becoming pointed.

Anthers attached in the middle.

The pistil has 2 stigmas, and the ovary is surrounded at base by smaller glands.

Sepals pubescent. Petals glabrous.

P. aquilina -

Flowers pubescent

Sepals - ovate elliptic - 1 mm - hairy

Petals - elliptic-lanceolate - 1 mm in midvein,
4 mm long. hairy.

Stamens - 4 mm long ^{filament} flower half expanded,
the upper tube to a tip - densely hairy.

Petal - Stigma enlarged, fleshy - 2 lobed.

Family, Rutaceae

Fls regl or irreg, hypogynous, bisexual or unisexual - 5-4 merous. Stamens as many or \times the carpels or fewer by abortion, rarely more. Gynoecium 5-4 carpels, sometimes fewer (3, 1) or several (\times) often more or less united, sometimes free. Ovary surrounded at base by a prominent disk or supported on a gynophore. Fruit a capsule, follicle, berry, drupe or samara. Trees shrubs & herbs, simple, compound alt or opp. leaves, dotted with pellucid glands. Plants contain aromatic oil, sometimes in all parts. Most ^{tropical} subtropical, but reaching colder climates

Five Subfamilies -

1. Rutoideae - *Xanthoxylum*, *Ruta*, etc.
2. Toddalioideae - gynoecium of 5-2 carpels, sometimes 1 - opening into a 2- or 1-seeded drupaceous or dry, winged samara.
Ptelea, *Isradia* (*P. aptera*) *Hern.* ^{*Stathelia*} *Helicteris*.
3. Aurantioideae - *Citrus*, *Fortunella*,
- 4.

Ptelea-

petals 4-5

Fls polygamous, sepals 4-5, stamens
as many, ovary 2-celled, compressed,
inserted on a disk, styles short, stigma 2-3
lobed. Ovules six in each cavity, superposed
in a 2-celled samara with a broad reticulate

Stilpnus sylvestris

1. Lateral gland cup-shaped, 2 per flower, sessile.
Calyx united.

Stemms = sylvestris

What are "projections" on cyathium?

Inflorescence L- 7.8

6.2

4.6

3.5

4.5

5.0

10.0

S. ~~smaller~~

lateral flange flattened, 2 or 3 fl.

Colony 2-lobed, united.

L. profligata

♂ fl. 1 per cyathium, cyathium small, pointed

Leaves elliptic-lanceolate 3-8 cm long, 0.8 cm
2.0 cm broad, regularly serrate, w/o glands
at tip of each tooth, but no disk-shaped ones
at base of leaf. Tip acute-acuminate,
base narrowly acute, petiole short,
The secondary veins prominent.
Both surfaces essentially smooth.

Inflorescence Terminal, slender, short,
the ♂ fl. 1 per cyathium.

S. zeylanica

Leaves w/ dice-shaped glands at base of blade

Leaves 8-10 cm long, 1-2.5 cm broad,
finely serrated, the serrations with glandular
glands at the tip. Tip acute, acuminate, base
acute, petioles short.

4 mfl. large, many flowered.

S. linearifolia Wats -

1. Leaves linear, about 1 mm wide, 2.5 cm long entire, or very occasionally with 1, 2, 3 or more filiform teeth. The bases of the leaves sometimes with an (extra-petiole adaxial stipule?)
2. Stems many branched, all ~~stems~~ ^{stems} forming a crown from a long slender tap root.
3. Inflorescences slender - 1 ♂ fl per apothem, the apothem slender, prolonged into an awn glaucous or hyaline. The glands subtending the sepals of the ♀ fl. long pedicellate. Stamens rather short, not extending beyond the surrounding calyx. ♂ glands rather cup-shaped at top.

S. paucidentata Wats -

Cysthings of leaf & fl rather short pedicellate,
flattened on top.

Stigma lobes long (about 5 mm) very long
♂ Fls 1 per cysthine.

Filaments 3-4 mm long, exserted from
calyx. (very long)

Leaves linear, 3-5 mm wide 5.5-6 cm
long, irregularly serrated, only 5-10
serrations per leaf, each serration long
and filiform, unequally spaced on margin.

Many inflorescences borne at tip of
main stem and lateral branches.

S. bicarpellaris -

Inflorance - 1.5 cm long

♂ fls w/ several flowers - per cyathium

Stamens sessile - not all cyathia have
of anthers.

♀ Ovary sometimes 2, sometimes 3 carpellate.

S. dentata -

Stems conspicuously ribbed - leafy to their bases, arising from a woody caudex, many branched.

Leaves elliptic to obovate, deeply dentate, the tips of the dentations scarcely glandular. Both surfaces glabrous, rugose. Petioles, the petioles very short.

Inflorescence slender. The column remaining after dehiscence of fruit. The gynobase small.

♂ fls 1 per cyathium - cyathium gland connex, nearly sessile - 2 stamens exerted from the calyx.

2. *spinulosa* -

Stems short, forming a basal cluster - plants
low, not over 1.5 ft tall. Stems deeply
ribbed,

Leaves alt. to subopposite, ovate-obovate,
tip acuminate, base narrowly obtuse.
Margin ~~stems~~ ^{scabrate} ~~scabrate~~, tips of sometimes
glandular. Stipules 3-axillate, of obscure
smooth.

From a long taproot, exceeding the length
of the stems.

Inflorescence small, 1 fl. per ^{axil} ~~node~~
~~axil~~ glands long-pedicellate.
Bracts boat-shaped, long attenuated

S. sanguinolenta

Shrub, 5' tall.

Stems woody, smooth, many branched

Leaves elliptic, tip acute, base acute, margins serrate, serrations glandular, ^{one} two or more cup-shaped glands at base of blade.

Petioles -

Inflorescence dense, many ♂ fls per cymium, ♀ with a persistent gynocium, but no persistent central column.

Inflorescence not terminative in stem.

Stigmas not persistent in fruit.

S. aquatica -

Dimensions

Seeds - length - 6 mm.	width 4 mm.
6	4
5	3.5

Seeds globose, 2 mm in diam.
Rugose, grayish brown to gray.

Characteristics of Order Saurales

1. Unisexual (usually), hypogynous, usually regular, perianth mono- or dichlamydeous, or perianth absent. Stamens equal + opposite the perianth segments.
2. Pistil 3-carpellary, 3-celled, rarely 2-5 carpels and -celled, each cell w/ 1-2 pendulous anatropous ovules with ventral, rarely dorsal, raphe.
3. Trees, shrubs + herbs, or sometimes climbing.
4. Frequently w/ stellate hairs or scales.

Family Euphorbiaceae -

Unisexual, mono- or dioecious; perianth absent, sepals + calyxes or of both calyx + corolla.

Staminate fl w/ as many stamens as perianth lobes

Pistillate fls usually 3-carpellate, w/ 1 ovule in each cell. Ovules w/ a ventral raphe

Stigmas 3 + dichotomous

Fruit a 3-furrowed schizocarp

Seeds usually with a micropylar caruncle.

Trees, shrubs + herbs, frequently latexiferous.

Organization of Euphorbia

1. Classification

A. Placed in Geraniales by Engelm + Prantl

B. Euphorbiae - a separate order containing only 3 families - Euphorbiaceae, Burseraceae + Calceutricaceae

These important separation points are
Euphorbiaceae - 3 locular capsules ^{ovules} with ventral raphe, the fruit a schizocarp
Burseraceae - ovules with ventral raphe and loculicidal capsule.

Calceutricaceae - 2 carpellary pericarp each with 2 anisotropic ovules on ventral raphe

C. Euphorbiaceae has 2 primary subdivisions (subfamilies)

Platylobae - w/ cotyledons much broader than the radicle (largest diam.)

Steroblobae w/ narrow cotyledons about as broad as the radicle. mostly Australian

D. The ^{subfamily} ~~subfamily~~ Platylobae has 2 subfamilies within which a large % of the family fall

Phyllanthoidae - no milky sap, 2 ovules per cell

Crotonoidae - milky sap present, 1 ovule per cell

Under *Croton* *occidens*, 8 tribes are differentiated
as follows -

(a) Partial inflorescence not a cyathium

d. Stamens bent sharply in bud. Calyx of male imbricate
& or valvate corolla generally present.

Tribe 1. Costaceae

B. Stamens erect in bud

1. Calyx of male valvate. Stamens generally apetalous
Inflorescence racemose, spicate or
paniculate; axillary or terminal.

Tribe 2. Acalyphaceae

2. Calyx of male valvate or almost imbricate, male
fls w/ or w/o a corolla. Fls in a dichasium

Tribe 3. Guttiferae

3. Calyx of σ valvate, more rarely imbricate. Fls always
apetalous in simple terminal spikes or racemes.

Tribe 4. Menispermaceae

4. Calyx of σ imbricate, male fls w/ corolla.

Tribe 5. Chytaceae

5. Calyx of σ imbricate, apetalous, lobed
Tubes segmented.

Tribe 6. Galericaceae

6. Calyx of σ imbricate, apetalous, tubes unsegmented

Tribe 7. Hippurandaceae

(b) Partial inflorescence a cyathium.

Tribe 8. Euphorbiaceae.