

PART IV

Chemical Investigations on the stem bark of
Macraranga Denticulata, Muell, Arg.

Chapter I

Morphological feature of the plants of Euphorbiaceae family

Euphorbiaceae^{1(a)} is a family of two hundred genera and more than three thousand species, which are chiefly tropical and very rare in cold countries.

Morphological features: Members of this family are usually shrubs, herbs and trees often with milky juice.

Leaves alternate or opposite, rarely divided or compound, usually small, often minute, always unisexual. Perianth simple and calveine, rarely petioled, often wanting in one or both sexes, rarely double, with the inner of 4-5 minute petals. Stamens various, anthers two celled, often didymous. Ovary superior, of 3, rarely more or two carpels, free or united, entire or divided, stigmatic surface usually on the inner face of the style or stylerams, ovules 1-2 in each carpel, pen dulons, from the inner angle of the cell, funnicle often thickened. Fruit either a capsule or of two valved 1-2 seeded cocci separating from a persistent axis, or a drupe with 1-3 cells or of one or more combined nuts. Seeds latterally attached at or above the middle of the cell with or without an aril or thickening of the hilum. Embryo straight, in a fleshy albumen, with flat cotyledons and a superior radicle, very rarely exalbuminous with fleshy cotyledons.

Macaranga, thouars: Trees or shrubs, leaves alternate, often large and peltate, entire or lobed, more or less glandular, beneath, 3-5 plinerved. Flowers in axillary racemes or branched panicles, usually dioecious, opetalous, males many, clustered, fem. one or few under each bract; bracts often large, entire or toothed. Males Fl. minute. Calyx globose or obovoid; sepals 3-4, valvate. Stamens one or more, central, filaments flexuous; anthers 3-4' locuate, cells more or less two valved. Pistillide 0. Fem Fl. Calyx 2-4 lobed or toothed. Ovary 1-6 celled; styles entire, long or short; cells 1-ovuled. Capsules small, of 1-5 2 valved naked or armed cocci, often glandular or with a waxy coat. Seeds globose, testa crustaceous or osseous albumen fleshy; cotyledons broad, flat - species about 80, in the tropics of the old world.

Macaranga denticulata, Muell. Arg. Leaves deltoid ovate acuminate or obtuse base rounded or truncate peltate or cordate 9-13 nerved glabrous or puberulous beneath, male panicles slender, bracts minute, stamens 6-30, styles very short, capsule small didymous more or less clothed with waxy glands.

M. denticulata is a small evergreen tree^{1(b)} growing to a height of 40 to 60 feet, having a clear stem of from 20 to 40 feet, and girth at breast height of from 3 to 11 feet. It is available chiefly at Terai and Duars of North Bengal. Wood white, prettily grained, but not durable and exuding a red gum when a branch is cut. Leaves shortly peltate, palmately 11-12 nerved, with glands on the margin chiefly near the apex, 4-12 in diam. thinly coriaceous, base truncate with 2 glands above, glands beneath dense nerves 6 or more

pairs above the basal, strong beneath; petiols 2-4 in, stipules small, ovate - lanceolate, tomentose, fugacious. Capsules $\frac{1}{4}$ in. diam didymous, black, with yellow glands. Seeds globose, black.