

PART-II

CHEMICAL INVESTIGATION OF ALLANTHUS GRANDIS PRATH. *

ISOLATION OF TWO NEW QUASSINOIDS-GRANDILACTONE A

AND GRANDILACTONE B AND STRUCTURE ELUCIDATION OF

GRANDILACTONE A.

CHAPTER-I

Morphological feature of the plants of Sissymbacaceae family.

Sissymbacaceae^{1(a)} is a family of thirty genera and about one hundred twenty species which are distributed in the tropical and subtropical regions of both hemispheres.

Morphological features: Members of this family are usually trees or shrubs, almost always with bitter bark. Leaves alternate, often very large, pinnate or rarely simple; stipules 0 or deciduous.

Inflorescence axillary, racemose paniculate or cymose, rarely spike.

Flowers usually diclinous, regular and generally small. Calyx 3-5 lobed, valved or imbricate. Petals 3-5, very rarely 0, hypogynous, valvate or imbricate. Disk annular or elongate, single or lobed, rarely 0. Stamens as many or twice as many as the petals, rarely indefinite, inserted at the base of the disk; filaments free, often with a scale at the base; anthers oblong, usually introrse, 2-celled, dehiscing longitudinally. Ovary free, 1-5-celled, usually deeply lobed, less often entire; styles 2-5, free or more or less united, stigmas capitate; ovules usually solitary in each cell, rarely more numerous, raphe ventral, micropyle superior. Fruit drupaceous, capsular, or occasionally samaroid, usually of 2-5 distinct carpels. Seeds usually solitary, erect or pendulous, albuminous; embryo

straight or curved, radicle superior.

Tribe I. Eucimarubaceae. Ovary deeply divided. Ovules solitary in each cell. Stamens twice as many as petals.

Leaves pinnate; fruit samaroid 1. ALLANTHUS.

Leaves simple; fruit drupaceous, variously winged 2. SAMADERA.

Stem spiny; filaments with a scale; fruit baccate 3. HARRISONIA.

Stamens as many as petals.

Disk thick, entire; flowers panicled; styles connate 4. PICRAMNIA

Disk 4-lobed; flowers compoundly cymose; styles nearly free ... 5. BRUGEA

Disk 6; flowers panicled; styles connate 6. EURYCOMA

Ovules 2 in each cell; leaves simple 7. SURIANA

TRIBE II. PICRAMNICEAE. Ovary entire; 2-5 celled.

Ovary 2-celled; leaves simple ... 8. INVINCIA

Ovary 3-celled; stem spiny; leaves 2-folliculate 9. DALANIERA.

Allanthus, leaf^{1(b),1(c)}; lofty trees. Leaves very large,

alternate, unequally pinnate. Flowers small, polygamous, bracteolate, in terminal or axillary panicles. Calyx 5-fid; lobes equal, imbricate. Petals 5, valvate. Disk 10-lobed. Stamens 10 (in the hermaphrodite flowers 2-3); filaments short or filiform, without scales. Ovary

2-5 partite; styles connate; ovules 1 in each cell, anatropous. Fruit of 1-5 1-seeded samaras; wing very large, membranous. Seed pendulous, sparingly albuminous.

Ailanthus glandulosa, Desf. ^{1(b), 1(d)}; A lofty tree. Leaves often exceeding 1 foot; leaflets very numerous, divided very unequally by the midrib, paler beneath. Flowers small, in much-branched panicles. Filaments filiform, exserted, several times exceeding the anther. Fruit of about 3 membranous linear oblong samaras, about $1\frac{1}{4}$ by $\frac{1}{3}$ inch. Seed near the centre of the samara, about $\frac{1}{4}$ by $\frac{1}{10}$ inch.

Ailanthus excelsa, Roxb. ^{1(b), 1(c)}; A tree, 60-80 feet high. Leaves 1^e fet or more; leaflets very numerous, on long petioles, very unequal at the base. Flowers larger than in Ailanthus glandulosa, on longish pedicels, in large lax often very much-branched panicles. Petals ovate-lanceolate, commonly reflexed. Filaments half the length of the anther. Samaras larger than in Ailanthus glandulosa, 2 inch by $\frac{1}{2}$ inch, strongly veined, blunt or pointed at both ends, copper-red, always once or twice twisted at the base.

Ailanthus malebarica, DC. ^{1(b), 1(f)}; A lofty tree. Leaves very large; leaflets distant, coriaceous, much lighter beneath, the two sides very unequal, margin often thickened and wavy. Flowers as in Ailanthus excelsa, but rather larger, and filaments very slender, exserted, many times larger than the anther. Samaras broadly linear, $2\frac{1}{2}$ by $\frac{3}{4}$

inch, reddish, not twisted, rounded at both ends.

Ailanthus grandis Frain 1(g), 1(h) ; Nepali name -Gokul, Lepcha name-
Maldit-Kung. A tall, very straight, evergreen tree in and near the
hills. Bark gray, base yellowish-buff. Leaves paripinnate, leaflets
at least 6 pairs. Fruiting December-June; winged, the wing 5-6 inches
long, 1-2 inches broad with one seed in the centre.