

Part used: Fruit

Traditional Uses: The taste is sweet and sour, and the potency is cool and blunt. It is used for the following: treating arrhythmia, decreasing blood pressure, reducing liver fever and fever of bile disorder. It is an ingredient of the following traditional prescriptions: Agar-7,15, Ava-7,15, Ar ur-5, Ravo-4, and Boigor-6 [5–9].

Microscopic characteristics:

Fruit: Outer epidermal cells thick-walled and with 4–6 angular. Thick-walled, unicellular, single trichomes rarely occur on surface of epidermis. Mesocarp with round and ovate shaped parenchymatous tissue containing clusters of calcium oxalate prisms in druses; and reddish-yellow and brown-yellow caratinoids. Inner side of mesocarp shows sclereid and collateral vascular bundle [10].

Chemical constituents: Fruit contains sugar, tannins, triterpenoids, long-chain fatty acids, 1.87–4.2% organic acids, steroids, ascorbic acid, carotene, catechin, leucoanthocyanidin, anthocyanin [11], flavonoids: hyperin and quercetin, and saponins [12].

Qualitive and quantitative standards: Loss on drying, not more than 14.0%. Ash, not more than 3.0%. Organic matter, not more than 1.0% and mineral matter, not more than 0.5% [12].

Bioactivities: Antihypertensive, antiatherosclerotic, antianginal, antiarrhythmic [11].

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