

Botanic name: *Galium asprellum* Michx----Fl. Bor.-Amer. (Michaux) 1: 78. 1803 [19 Mar 1803] (IK)

Common name: Rough bedstraw, kidney-vine, cleavers, clivers

Family: Rubiaceae.

Distribution: Indian Himalayas, native to Eastern Canada and parts of USA

Habitat: Terrestrial; wet to moist habitats, considered an obligate wetland species.

Description: A perennial herbaceous plant growing from creeping rhizomes and producing 4 directional branched stems; stems are erect, prostrate, or leaning on adjacent vegetation, often forming mats. The stems, the margins of leaves, stipules, and the abaxial side of the midribs are covered in retrorse (backward pointing) prickles or bristles; leaves opposite with 2-4 leaf-like stipules forming a whorl of 4 to 6 apparent leaves, leaves and stipules are elliptic to oblanceolate, apically cuspidate, basally attenuate, sessile, entire; flowers small, pedicellate, perfect, borne in axillary and terminal panicles or cymes, inflorescence is longer than the subtending leafy bracts; calyx unlobed and fused to corolla and filament bases as a hypanthium; corolla 4-partite, white, rotate, each lobe cuspidate and longer than wide; stamens 4 having short filaments and exerted anthers; ovary bi-carpellate, bears 2 short styles with one capitate stigma each; the carpels bear one ovule each; fruits-dry capsules., round, indehiscent

Phytochemicals: Rutin, hyperoside, chlorogenic and caffeic acids, phytosterols (ergosterol, β -sitosterol, strigmasterol, campesterol, brassicassterol), flavones (hispidulin, eupalitin, acacetin, casticin), asperuloside, a substance that produces coumarin.

Medical/Economic uses: Diuretic (whole plant), lithontripic and vulnerary, to treat measles, epilepsy, hysteria, and to induce perspiration, also has been used for kidney troubles by rural communities. During colonial times, the species was used to curdle milk to make English-style cheeses. Leaves raw or cooked as edible. Red dye is obtained from roots. Asperuloside can be converted into prostaglandins (hormone-like compounds that stimulate the uterus and affect blood vessels), making the genus of great interest to the pharmaceutical industry.