

## Plantago indica

*Plantago indica*, commonly known as branched plantain, sand plantain, or black psyllium, is a flowering plant in the plantain family Plantaginaceae, and is one of a few species in the *Plantago* genus under the common name psyllium.[3] The plant is native to parts of Africa, Europe, Russia, and Asia, and has been naturalized in many other areas such as Australia and North America.[4][5] The plant can be found mostly in dry inland areas, such as those that are sandy, and has also naturalized on roadsides and in meadows.[4][5] The plant is not used broadly as a food source, but has been cultivated for its seeds which serve a medicinal use as a laxative.[6]

*Plantago indica* is an annual herb with a taproot that has an erect stem with leaves that are usually opposite but sometimes in whorls of 3, and elongated internodes between leaf sets.[4][7] Glandular pubescence is found on the stems, leaves, sepals, and inflorescences.[4] The leaves are simple and have a base that is decurrent onto the petiole, an entire or slightly dentate edge, are linear or lanceolate in shape, and can reach 2.5-5cm long and 1-3mm wide.[4][7] Some leaves are modified into bracts between 0.5cm and 2cm which have a cuspidate apex and an orbicular-ovate base.[4] The plant has a densely flowered inflorescence with flowers that have a glabrous, brownish corolla and a calyx with broadly veined, elliptic and obovate sepals.[4][7] The stamens exert above the corolla, and the anthers are yellow, ellipsoid, and 1.8-2.2mm in size.[4][7] The style of the stigma is also well exerted, and the floral parts are hypogynous but extend superior to the ovary.[4][5][7] The seeds are contained in capsules of 2. The seeds are 2.5-2.8 mm in size, black or blackish-brown, shiny, ellipsoid, and have a distinct central groove on the inner face.[4][7]

*Plantago indica* is described as being native to North Africa, Southwest China, Europe, Russia, Kazakhstan, Kyrgyzstan, and Tajikistan.[4] The plant has become broadly naturalized, identified in areas of Australia, North America, India, Japan, and Pakistan.[4][5] The plant is commonly found in sandy areas such as in arid deserts and on sandy beaches, and has also been seen distributed on roadsides, and by railroad tracks.[4][5][8][9]

The seeds, known as French psyllium or black psyllium, are medicinally cultivated, along with other species under the psyllium common name, such as *P. ovata*, for use as a laxative for constipation and are also used to treat irritable bowel syndrome (IBS) and diarrhea by extracting the mucilage from the seed coat.[6][10] The mucilage from the seeds has also been reported to lower the risk of coronary heart disease.[6][10]

