Senna obtusifolia

Senna obtusifolia, known by the common names Chinese senna, American sicklepod, sicklepod, etc., is a plant in the genus Senna, sometimes separated in the monotypic genus Diallobus. It grows wild in North, Central, and South America, Asia, Africa, and Oceania, and is considered a particularly serious weed in many places. It has a long-standing history of confusion with Senna tora and that taxon in many sources actually refers to the present species.

In the traditional medicine of Eastern Asia, the seeds are called jué míng z■ in Chinese (simplified: ■■■; traditional: ■■■), gyeolmyeongja in Korean, and ketsumeishi in Japanese.

The green leaves of the plant are fermented to produce a high-protein food product called kawal which is eaten by many people in Sudan as a meat substitute. Its leaves, seeds, and root are also used in folk medicine, primarily in Asia. It is believed to possess a laxative effect, as well as to be beneficial for the eyes. As a folk remedy, the seeds are often roasted, then boiled in water to produce a tea. The plant's seeds are a commercial source of cassia gum, a food additive usually used as a thickener and named for the Chinese Senna's former placement in the genus Cassia. Roasted and ground, the seeds have also been used as a substitute for coffee. In vitro cultures of S. obtusifolia such as hairy roots may be a source of valuable secondary metabolites with medical applications.[3]

This species was first formally described in 1753 by Carl Linnaeus who gave it the name Cassia obtusifolia in Species Plantarum.[4][5] In 1979, Howard Samuel Irwin and Rupert Charles Barneby transferred the species to the genus Senna as S. obtusifolia in the Memoirs of the New York Botanical Garden.[6][7] The specific epithet (obtusifolia) means "blunt-leaved".[8]

S. obtusifolia is known by a number of common names. Apart from "sicklepod",[9] sickle-pod senna,[10] rarely "Chinese senna"[11] or even "American sicklepod",[12] it is also called arsenic weed,[13] foetid cassia, or wild senna.[10]

It is also known locally by common names such as "coffee weed" (coffeeweed)[14] or "java bean" (in Australia)[14] or "coffee pod" (in the American South or West),[15][13] although the terms "coffee weed" or "coffee pod" are ambiguous as they also apply to S. tora.[9] It may be called by the Hindi name "chakunda" in India, but this is also one of the names for S. tora.[9]

Names in its native range are also:

Senna obtusifolia is endemic to Central America and South America, but is naturalised in North America, Africa, parts of Europe, the Middle East, the Indian subcontinent, parts of Southeast Asia, New Guinea and parts of Australia.[2] In its natural environment, it grows on the shores of lakes and rivers, but is also a weed of pastures and roadsides at altitudes up to 1,100 m (3,600 ft).[7]

The materia medica name for the seeds in Chinese is jué míng z■ (simplified: ■■■; traditional: ■■■).[19] The medicinal seeds are also known by the equivalent Korean name gyeolmyeongja (■■■; ■■■) in traditional Korean medicine,[20] and by the Japanese name ketsumei-shi (■■■■■, ■■■) in kamp■ medicine.[21]

The jue ming zi is used widely in Asia, including Southeast Asian countries such as Thailand,[21][22] and its herbal tea is drunk instead of regular tea as a preventative for hypertension.[21][22] It is also purported to have the ability to clear the eye.[21] In Korea also, medicinal gyeolmyeongja is usually prepared as tea (gyeolmyeongja-cha. ‘sickle pod tea’).

Senna tora (Cassia tora) is used similarly, and though distinguished in the Chinese market as the "little/lesser" variety or shao jue ming ■■■)[22] the Japanese government's [pharmacopoeia] (Nihon yakkyokuh■) officially acknowledges both S. obtusifolia and S. tora to be commerced as ketsumeishi.[22]

The Japanese beverage habu-cha (■■■), as the name suggests, was originally brewed from the seeds of the habus■ or S. occidentalis, but currently marketed habu-cha uses S. obtusifolia as substitute, since it is a higher-yielding crop.[23][24]

Kawal, a protein-rich meat substitute eaten in Sudan, is produced by crushing the leaves of the plant into a paste which is then traditionally fermented in an earthenware jar, buried in a cool place. The jar is dug up every three days and the contents mixed. After two weeks, the paste is removed and rolled into balls which are left to dry in the sun. They are usually cooked in stews with onions and okra.[25][26]