

Bishkatali, *Polygonum hydropiper* L.

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Water Pepper (*Polygonum hydropiper* L.)

Synonyms

(View the names of this plant in 40 languages)

botanical *Persicaria hydropiper* (L.) Spach

English Smartweed, Marshpepper

French Poivre d'eau, Renouée

German Wasserpfeffer

Japanese 蓼, 紅蓼, 青蓼

Tade, Azebu-tade, Asabu-tade, Yanagi-tade; Ao-tade (green-leaved); Beni-tade (red-leaved)



Water pepper leaf



Dried water pepper seeds

Used plant part

In Japanese cooking, the fresh leaves are used. The dried seeds have a strong pungency, but I have not heard of them being used in any ethnic cuisine.

Plant family

Polygonaceae (buckwheat family)

Sensory quality

The plant has hardly any odour. On chewing, it is slightly bitter in the first moment, but then develops a pungent, biting-prickling heat, which lasts for a while, similar to Sichuan pepper.

Main constituents

A bicyclic sesquiterpenoid, polygodial (tadeonal, an unsaturated dialdehyd with a drimane backbone) has been found responsible for the pungent taste; rutin (see rue) is the source of the bitter taste impression. Polygodial also appears in an exotic Australian spice, Tasmanian pepper, and, in small quantity, in the Brazil paracress.

The plant contains an essential oil (0.5%) which is mainly made up of monoterpenoids and sesquiterpenoids: α -pinene, β -pinene, 1,4-cineol, fenchone and α -humulene, β -caryophyllene, trans- β -bergamotene. Carboxylic acids (cinnamic, valeric, capronic acid) and their esters were present in traces. The composition depends strongly on genetic factors.

Origin

The plant grows at wet places in temperate to tropical Eurasia, North Africa and North America. The subspecies from temperate climate (ssp. *hydropiper*) is larger and has two-sided fruits, whereas the tropical subspecies (ssp. *microcarpum*) is generally smaller and produces three-sided fruits.



Water pepper twig bearing flowers



Water pepper flower

Etymology

The term water pepper is motivated on one hand by the pungent peppery taste and on the other side by the plant's natural habitat; analogue formations are found in other European languages (German Wasserpfeffer, French poivre d'eau, Serbian vodeni biber [водени бибер] or Russian perets vodyanoj [перец водяной]). Cf. also the English term marsh pepper and the Romanian name piper broaștei "frog's pepper".

The botanical species name, *hydropiper*, derives directly from the classical Greek plant name *hydropiperi* [ὑδροπέπερι], which appears in Dioskurides' medical plant book (*hydor* [ὔδωρ] "water" and *pereri* [πέπερι] "pepper").

The word water has relatives in nearly every Indo-European language: Hittite *wātar* [𐎶𐎵𐎶𐎶], Greek *hydor* [ὔδωρ], Russian *voda* [вода] (*vodka* [водка] is a diminutive "little water"), Irish *uisce* (whisky is shortened from Gaelic *uisge beatha* "water of life"), Lithuanian *vanduo*, Sanskrit *uda* [उद] "water", furthermore Latin *unda* "wave". Another related English words are *otter* and possibly *aurochs*. At these words' basis lies a variable Proto-Indo-European root **WED-* with basic meaning "wet", whence **WODR̥* "water" is derived.

The Latin word for water, *aqua*, lives today in the Romance languages, e.g., in Italian *acqua* and French *eau*. In Germanic tongues, we have Gothic *ahva*, Old High German *aha*, Old English *ea* and Old Norse *a* "water", Modern German *Au* "area around a river". Possibly related words are found in other Western Indo-European tongues: Hittite *ekuzi* "he drinks" and Tocharic *yok-* "drink", which might all derive from Proto-Indo-European **AKW̥A* "water".



Water pepper (sterile twig)

Water pepper, despite being native in a large area of Eurasia, is little used for cooking outside of Japan. Its clear pungency makes it stand apart from all other pungent spices (and difficult to substitute), only the leaves of Tasmanian pepper have a comparable taste.

Since water pepper has not any specific taste beside its pungency, it is well suited for Japanese cookery (see also. Japanese cooks love water pepper for soups and salads, to which it lends certain pungency without masking the subtle flavour of sea weed or fish. Water pepper can also be used to garnish sushi .

Water pepper seeds, although not used traditionally in any cuisine I know, have a strong, almost anaesthetic, pungency, which makes them an interesting spice and well worth trying. They somewhat remind to the Tasmanian peppercorns; although they lack the latter's sweet flavour, they make an almost perfect substitute. Water pepper seeds have been used as a substitute for black pepper in Germany in the years after World War II, but are not commercially available nowadays.