

# Expert Herbal Reality Resource

## Devil's Claw

### Names

**Botanical Name** *Harpagophytum procumbens* (Burch.) DC. ex Meisn

**Family:** Pedaliaceae

**Common names:** Grapple plant (Eng), Teufelskralle, Trampelklette (Ger), griffe du diable (Fr), duiwelsklou (Afrik), laolao (Indigenous)

**Alternate botanical names:** *Harpagophytum zeyheri* is commonly mixed with commercial samples of *H. procumbens* and is difficult to differentiate from it. Two subspecies of *H. procumbens* are defined: subsp. *procumbens* and subsp. *transvaalensis*.



### Description

Devil's claw is the root from a plant native to the Kalahari Desert in southwest Africa. It is a weedy, perennial plant with creeping stems spreading from a tuberous rootstock. The greyish-green leaves are placed either alternately or directly opposite each other. The characteristic fruits have long branching arms with anchor-like hooks (which assist their dissemination by animals) and which give the plant its most common name. The primary root descends up to 2m with secondary roots spreading out for up to 1.5m on all sides, which allows it to conserve water.

### Constituents

- Iridoid glycosides (0.5 to 3.0%), primarily harpagoside, isoharpagoside, harpagide, procumbide
- Triterpenes
- Phytosterols
- Phenolic acids and glycosides
- Flavonoids
- Sugars

It is possible that the iridoid glycosides are converted into an active monoterpene alkaloid aucubinine B by bacterial species in the gut microbiome.<sup>1</sup> This could be significant factor in modulating inflammation and would add to the variability in effects that have been noted in clinical trials.

### Traditional use

The use of devil's claw was prominent amongst the indigenous San and Khoi people of southern Africa, and was further adopted by Bantu-speakers. These peoples used the root tuber for a range of conditions including joint and muscle pains, digestive problems, headaches and fever management, and externally for skin inflammations, wounds, ulcers, boils and the relief of pain.

In 1904 a Dr Menhert observed a dramatically successful life-saving treatment with the tuber and popularised the remedy under the name 'Harpagophytum Tea' (*harpago* means 'grappling hook' in Greek).

## What practitioners say

In modern herbal clinical practice devil's claw is used almost entirely as a herbal substitute for anti-inflammatory medicines. Its indigenous use however reflects its bitter digestive prospects and this may merit further exploration in modern practice.



Evidence and experience suggest that devil's claw needs to be provided in relatively large doses for real benefit, with over 3 grams per day over at least a month or two for back pain and arthritis. It is also likely to be more effective for moderate rather than severe problems.

## Evidence

There is little consistent indication of the way in which devil's claw could reduce inflammation but some COX2-mediated reduction in NF-kappaB activity has been reported for harpagoside.<sup>ii</sup>

The 2016 Cochrane review on herbal treatment for low back pain (the leading source of evidence-based systematic reviews) has concluded that with caveats for methodological quality devil's claw has an impact on arthritic pain greater than placebo.<sup>iii</sup> An earlier review had concluded that there was moderate evidence of benefit in osteoarthritic conditions as well as low back pain for devil's claw preparations delivering between 50-100mg harpagoside.<sup>iv</sup>

## Safety

Devil's claw has shown itself to have a good safety profile in toxicological studies.<sup>v</sup> A systematic review of published clinical trials on devil's claw concluded adverse effects were comparable with placebo.<sup>vi</sup>

## Dosage

3-6 g/day of the dried root. To avoid possible denaturing effects of stomach acid the best time to take is between meals.

## References

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- iii Gagnier JJ, Oltean H, van Tulder MW, et al. (2016) Herbal Medicine for Low Back Pain: A Cochrane Review. *Spine (Phila Pa 1976).* 41(2): 116-33. doi: 10.1097/BRS.0000000000001310
- iv Gagnier JJ, Chrubasik S, Manheimer E. (2004) *Harpagophytum procumbens* for osteoarthritis and low back pain: a systematic review. *BMC Complement Altern Med.* 4: 13. doi: 10.1186/1472-6882-4-13.
- v EMEA (European Medicines Agency), 2009. Assessment Report on *Harpagophytum procumbens* DC. and/or *Harpagophytum zeyheri* Decne, Radix
- vi Vlachojannis J, Roufogalis BD, Chrubasik S. (2008) Systematic review on the safety of *Harpagophytum* preparations for osteoarthritic and low back pain. *Phytother Res.* 22(2): 149-52. doi: 10.1002/ptr.2314