


Acmella oleracea

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Scientific classification	
Kingdom:	Plantae
(unranked):	Angiosperms
(unranked):	Eudicots
(unranked):	Asterids
Order:	Asterales
Family:	Asteraceae
Genus:	<i>Acmella</i>
Species:	<i>A. oleracea</i>
Binomial name	
<i>Acmella oleracea</i> (L.) R.K.Jansen	

Acmella oleracea, also known under its old names *Spilanthes oleracea* and *Spilanthes acmella* and commonly referred to as Spilanthes Extract, is a flowering herb in the plant family *Asteraceae*, also known as **toothache plant** or **paracress** as the leaves and flower heads contain an analgesic agent spilanthol used to numb toothache. It is native to the tropics of Brazil, where it is called **Jambu**, and is grown as an ornamental (and occasionally as a medicinal) in various parts of the world. A small, erect plant, it grows quickly and sends up gold and red flower inflorescences. It is frost-sensitive but perennial in warmer climates.

Culinary uses

For culinary purposes, small amounts of shredded fresh leaves add a unique flavour to salads. Cooked leaves lose their strong flavour and may be used as leafy greens. Both fresh and cooked leaves are used in dishes (such as stews) in Northern parts of Brazil, especially in the state of Pará, often combined with chillies and garlic to add flavor and vitamins to other foods.^[1] A related species is used in several Southeast Asian dishes, such as salads. Consumption of portions or whole flowers have been reportedly used to offset the intense heat of chillies and peppers.

Eating a whole flower bud results in a grassy taste, followed by an extremely strong tingling or numbing sensation and often excessive saliva production and a cooling sensation in the throat.^[1] These buds are known as **Buzz Buttons**, **Szechuan buttons**, **sansho buttons**, and **electric buttons**.^[2] In India, the buds are used as flavoring in

chewing tobacco.^[2]

The leaves of this plant is used by Bodo-tribals of Bodoland, Assam (India) in preparing a spicy chicken soup, mixed with other common spices. Bodos believe that this soup provides relief from cold and cough.

Medical uses and effects

A decoction or infusion of the leaves and flowers is a traditional remedy for stammering, toothache, stomatitis,^[1] and throat complaints.

Acmella oleracea extract has been tested against various yeasts and bacteria and was essentially inactive.^[3]

Acmella oleracea has been shown to have a strong diuretic action in rats.^[4]

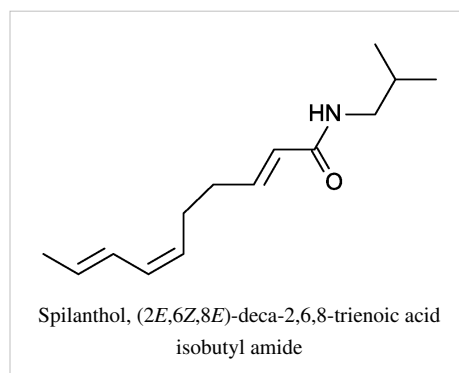
Spilanthes extract has been discovered to aid in saliva stimulation (sialogogue) for people suffering from dry mouth (xerostomia). Its properties provide relief to dry mouth by enhancing saliva production.

Active chemicals

The most important taste-active molecules present are fatty acid amides such as spilanthol, which is responsible for the trigeminal and saliva-inducing effects of products such as Jambu oleoresin, a concentrated extract from Paracress.^[5]

Besides the main active ingredient spilanthol, *Acmella* also contains stigmasteryl-3-*O*- β -D-glucopyranoside and a mixture of triterpenes.

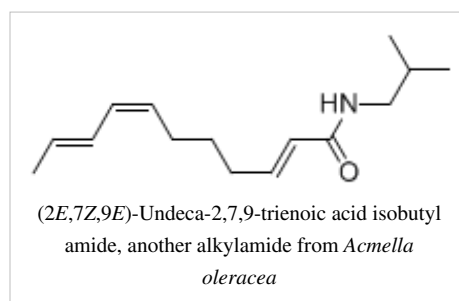
The isolation and total synthesis of the active ingredients have been reported.^[6]



Pesticide effects

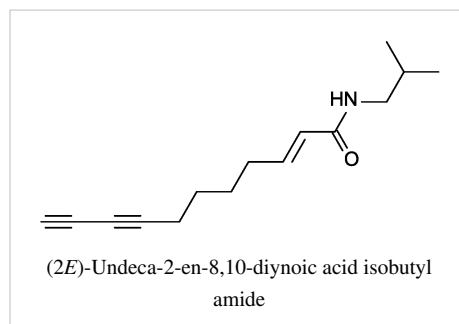
Extracts using hexane of freshly harvested flowers of *S. acmella* were bioassayed against *Aedes aegypti* (yellow fever mosquito) larvae and *Helicoverpa zea* (the corn earworm moth) neonates. Spilanthol proved effective at killing mosquitoes, with an LD₁₀₀ (at 24 hours) at a concentration of 12.5 $\mu\text{g/mL}$ and showed 50% mortality at 6.25 $\mu\text{g/mL}$.

The mixture of isomers of spilanthol showed a 66% weight reduction of *H. zea* neonate larvae at 250 $\mu\text{g/mL}$ concentration after 6 days.^[5]



References

- [1] Like a Taste That Tingles? Then This Bud's for You (<http://www.washingtonpost.com/wp-dyn/content/article/2007/10/02/AR2007100200464.html>). *Washington Post*.
- [2] It's Shocking, But You Eat It (<http://www.npr.org/templates/story/story.php?storyId=101304548&ft=1&f=1007>). NPR.
- [3] Holetz FB, Pessini GL, Sanches NR, Cortez DA, Nakamura CV, Filho BP (2002). "Screening of some plants used in the Brazilian folk medicine for the treatment of infectious diseases". *Mem. Inst. Oswaldo Cruz* **97** (7): 1027–31. doi:10.1590/S0074-02762002000700017. PMID 12471432.
- [4] Ratnasooriya WD, Pieris KP, Samaratunga U, Jayakody JR (2004). "Diuretic activity of *Spilanthes acmella* flowers in rats". *Journal of Ethnopharmacology* **91** (2–3): 317–20. doi:10.1016/j.jep.2004.01.006. PMID 15120455.
- [5] Ramsewak RS, Erickson AJ, Nair MG (1999). "Bioactive N-isobutylamides from the flower buds of *Spilanthes acmella*". *Phytochemistry* **51** (6): 729–32. doi:10.1016/S0031-9422(99)00101-6. PMID 10389272.



- [6] Ley JP, Blings M, Krammer G, Reinders G, Schmidt CO, Bertram HJ (2006). "Isolation and synthesis of acmellonate, a new unsaturated long chain 2-ketol ester from *Spilanthes acmella*". *Nat. Prod. Res.* **20** (9): 798–804. doi:10.1080/14786410500246733. PMID 16753916.

External links

- PROTAbase on *Acmella oleracea* (http://database.prota.org/dbtw-wpd/exec/dbtwpub.dll?AC=QBE_QUERY&BU=http://database.prota.org/search.htm&TN=PROTAB~1&QB0=AND&QF0=Species+Code&QI0=Acmella+oleracea&RF=Webdisplay)

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