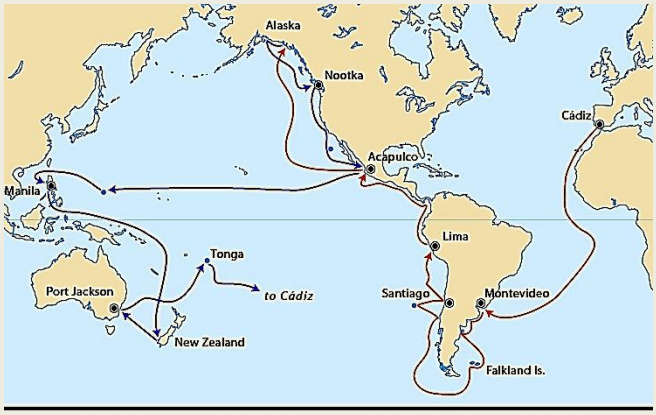
Sigesbeckia orientalis

A tale of nationalism, religious fervour, and academic jealousy!!!

Who would have thought this unremarkable, nondescript and uninspiring plant, so common in bushland gullies round Sydney, could, at one time, have been the centre of malicious, toxic and spiteful controversy? But more about this later.

Sigesbeckia orientalis, or St Paul's Wort, is a soft foliaged, erect herb, with tiny yellow flowers. Sometimes it is referred to as a fireweed, becoming more common after bushfire or on disturbed ground.

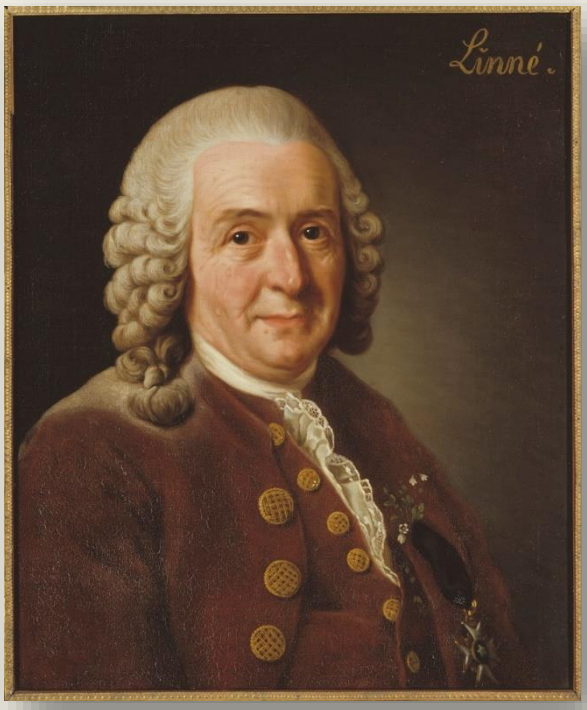
The Atlas of Living Australia reports a natural range from Africa to Asia, and widely naturalised elsewhere in the world, although other references limit its natural distribution to the Indian subcontinent, Indochina, Papuasia, and eastern mainland Australia. Whether it is native to Australia or not has been a matter for speculation although historical data seems to confirm that it is. In the *Geneva Herbarium* (G-DC) in Switzerland, there are specimens of *Sigesbeckia orientalis* collected from Australia in 1816. An even earlier collection is held at the Herbarium of *Université de Montpellier II* (MPU) in France, collected by botanist Thaddäus Haenke in 1793 from Sydney Cove, during the Spanish Malaspina Expedition to the Pacific. A compromise appears to recommend that *Sigesbeckia orientalis* be recognised as a native of eastern mainland Australia, but an introduced species in Western Australia and Tasmania, where records are relatively recent (1970 for Flinders Island, Tasmania).



The route of Alessandro Malaspina in the corvette *Descubierta*, 1789-1794

Outbound route from Spain to Alaska
Continued route across Pacific

So why would we bring you a story about such an insignificant plant? Well, partly we were intrigued to know whether it was, in fact, a native, as its *weedy* look, and ability to rapidly colonise disturbed areas implied *introduced species.* However, as we researched further, we found it was the centre of an absolutely delicious story of sex, religion, nationalism and academic jealousy.



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These days we take for granted the simple, practical binomial method of naming organisms – *Homo sapiens*, for example. Before the great Swedish botanist Linnaeus developed the binomial system, plant names in Latin were descriptive and incredibly long, for example the original name given to the Irish Strawberry Tree was *Arbutus caule erecto, foliis glabris serratis, baccis polyspermis*, which means *Arbutus with upright stems, hairless serrated leaves and many seeded berries*. Using Linnaeus' binomial system, this became *Arbutus unedo*. However, the introduction of this system was very controversial.

Johann Siegesbeck (1686-1755) was a Prussian physician and botanist, and director of the Botanical Gardens of St Petersburg. Initially, he and Linnaeus were good friends and corresponded regularly. When Linnaeus developed his binomial system for naming plants, based on the reproductive organs of plants, many critics found his sexual system unnatural and offensive. Siegesbeck was outraged, his criticism of Linnaeus moral rather than scientific. He refuted Linnaeus' sexual system, and referred to it as *loathsome harlotry.* In his publication, *Epicrisis in clar. Linnaei nuperrime evulgatum systema plantarum sexuale, et huic superstructam methodum botanicam*, he sarcastically asked whether God would allow 20 men or more (referring to the stamens of a flower) to have one wife (pistil of the flower) in common.

When naming plants, Linnaeus believed that there should be a relationship between the plant and the person after whom it was named. One example, *Magnolia*, a plant with handsome leaves and flowers, was named by Linnaeus after French Botanist, *Pierre Magnol,* a botanist whose work he thought outstanding. Linnaeus had a wicked sense of humour, and for revenge, named *Sigesbeckia*, a relatively uninteresting and uninspiring little plant, after Siegesbeck. The hostility

between the two men continued in publications, and in another delicious incident which did nothing to diffuse the tension and animosity between the two men, seeds of *Siegesbeckia orientalis*, labelled *Cuculus ingratus* (‘ungrateful cuckoo’) by Linnaeus were accidentally sent back to Siegesbeck who grew the seeds only to find out what they really were! He was furious.

These days we laugh at Siegesbeck’s criticisms of Linnaeus, but at the time, to be considered to have the wrong religious opinions could be disastrous and have serious consequences. In 1759, Pope Clement XIII banned all Linnaeus’ publications from the Vatican, and ordered that all copies of his work be burned. However, in 1774, his successor, Pope Clement XIV, reversed the ban and botanists were invited to present lectures on Linnaeus’ system at the Vatican. Finally, the Catholic Church had decided that plants have sex!!

Alison Downing, Brian Atwell Kevin Downing
Department of Biological Sciences

Atlas of Living Australia: https://bie.ala.org.au/species/https://id.biodiversity.org.au/node/apni/2920819

Bean A R. 2007. A new system for determining which plant species are indigenous in Australia. *Australian Systematic Botany* **20:** 1–43

Benson D, Eldershaw G, 2007. Backdrop to encounter: the 1770 landscape of Botany Bay, the plants collected by Banks and Solander and rehabilitation of natural vegetation at Kurnell. *Cunninghamia* 10(1): 113 – 137.

Natural History Museum: https://plants.jstor.org/stable/10.5555/al.ap.person.bm000368452

Plantnet: http://plantnet.rbgsyd.nsw.gov.au/cgi-bin/NSWfl.pl?page=nswfl&lvl=sp&name=Sigesbeckia~orientalis

Sigesbeckia: http://www.sigesbeckia.com/about-sigesbeckia/

Taiz L, Taiz L. 2017. *Flora Unveiled: The Discovery & Denial of Sex in Plants*. Oxford University Press, New York.

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