

# *Lycoris* *aurea*

Golden Spider Lily  
– not only a  
beautiful ornamental  
but also useful in the  
management of  
Alzheimer's  
Disease.

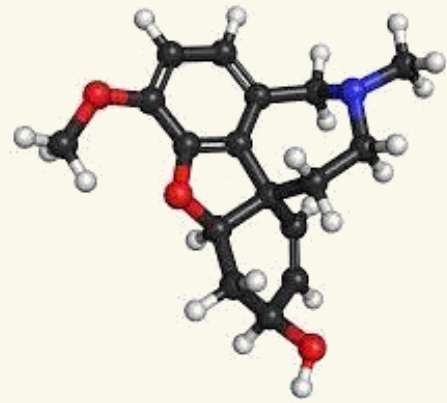


The Golden Spider Lily, *Lycoris aurea*, is closely related to the better-known pink-flowered Nerines of southern Africa, but it comes from Asia, especially the limestone regions of southern China where plants occur naturally in rock crevices and in shaded, moist locations on hillsides. There are about 20 species of *Lycoris*, and 15 of these are endemic to Southern China. For centuries, *Lycoris* have been popular as garden or potted plants worldwide, but horticulturists have a long history of working to *improve* wild species, so garden plants may well be of hybrid origin. Plants of *Lycoris aurea* are diploid, but are unusual in that chromosome numbers vary between plants, 12, 13, 14 or 16 but only those with chromosomes  $2n=14$  are known to be fertile.

Flowers appear unheralded by leaves, and well deserve their charming Chinese common name – 忽地笑 Hu Di Xiao – which approximately translates to *Suddenly Laughing!* Certainly, their sudden arrival well before the appearance of their leaves, brings a smile to everyone. There is a Chinese folk story of two fairies, one guarded the flowers, the other the leaves, and they were destined never to meet. However, they defied their deity, met and fell in love. Their punishment - that the golden flowers would never meet the green leaves ever again.



Bulbs of all species of *Lycoris* contain poisonous alkaloids and in Japan are often grown along the margins of rice paddy fields to deter mice, but one alkaloid in particular, *galantamine*, isn't just a folk remedy and is available in Australia on the Pharmaceutical Benefits Scheme (PBS) for the treatment of mild to moderately severe dementia in patients with *Alzheimer's disease* who have reduced levels of acetylcholine in the brain. *Galantamine* is an acetylcholinesterase inhibitor that blocks the breakdown of acetylcholine by the enzyme cholinesterase. Acetylcholine is the main neurotransmitter that functions in the nervous system and is needed in the brain for memory, attention, learning, thought and motivation. Galantamine will not cure Alzheimer's, nor will it prevent the eventual loss of mental capacity, but it has been shown to have some effect on cognition.



Australian Government, Therapeutic Goods Administration: <https://www.tga.gov.au/publication-issue/medicines-safety-update-no5-2010>

Botany Boy, Plant Encyclopedia: <https://botanyboy.org/lycoris-aurea-the-golden-spider-lily/>

Dementia Australia: [https://www.dementia.org.au/sites/default/files/helpsheets/Helpsheet-DementiaQandA01-CholinesteraseInhibitors\\_english.pdf](https://www.dementia.org.au/sites/default/files/helpsheets/Helpsheet-DementiaQandA01-CholinesteraseInhibitors_english.pdf)

Drugs.com: Cholinesterase inhibitors: <https://www.drugs.com/drug-class/cholinesterase-inhibitors.html>

Flora of China: [http://www.efloras.org/florataxon.aspx?flora\\_id=2&taxon\\_id=200028055](http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=200028055)

Health Direct: <https://www.healthdirect.gov.au/medicines/brand/amt,2801000168100/galantamine-mr-apo>

Knox G W. University of Florida. *Hurricane Lilies*, *Lycoris species*, in Florida:

<https://edis.ifas.ufl.edu/publication/EP255>

Medline Plus: <https://medlineplus.gov/druginfo/meds/a699058.html>

Salachna P, Piechocki R. 2019. Comparison of nutrient content in bulbs of Japanese red spider lily (*Lycoris radiata*) and golden spider lily (*Lycoris aurea*), ornamental and medicinal plants. *Scientific News of Pacific Region 1*: 75-82

Wikipedia: <https://en.wikipedia.org/wiki/Lycoris>

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