

November 2021



Dear Club Members,

Fifteen years ago a remarkable woman died. Asima Chatterjee was born on 23rd September 1917, and died on 22nd November 2006. She became the first Indian woman to gain a doctorate in science. She paved the way for Indian women in science, and helped develop drugs that have been used to improve the survival rates of Malaria, Cancer and Epilepsy. At the time of her birth India was still a British colony, she grew up in a middle class household in Calcutta (now Kolkata) her father worked as a doctor.

It's with her father that she first develops the passion for plants, that becomes the basis for her lifelong quest for knowledge.

On leaving school she enrolled at the Scottish Church College of the University of Calcutta, and graduated with honours in Chemistry in 1936. She then continued her studies, and gained a masters degree in 1938, before gaining her doctorate in 1944. The first Indian woman to do so from an Indian University. In 1940 she had been invited to become the founding head of chemistry at Lady Brabourne College at the University of Calcutta.

Her speciality was alkaloid compounds in plants, researching these naturally occurring chemicals to see what may have potential to be used in drugs. She left India for 3 years, working with colleagues in universities in Wisconsin, California and Zurich. When she returned in 1950 it was to a newly independent India. Life as a researcher was not easy at that time, many Government run organisations that now look after research were not yet in place, and there was often little by way of funding, her own department contained hardly any of the technical equipment she needed, and much had to be outsourced to other universities. However she continued her work, and in 1960 was elected a Fellow of the National Institute of Sciences in India. She went on to be the first woman to be elected General President of the Indian Science Congress in 1975.

Her personal life was not always easy, she married in 1945, and had a daughter, Julie. Her husband was a fellow academic, but Asima still carried out all the tasks expected of a home maker. In 1967 she lost both her father and husband, and then suffered a heart attack taking 3 months to make a recovery.

In her lifetime she published over 400 research papers. Her particular focus was on plants found in the Indian subcontinent. A large number of her research students now hold top positions at universities all over the world. Her daughter became Head of Chemistry and Calcutta University.

Your fibre this month is inspired by one of the plants she studied. *Rauvolfia tetraphylla* is also known as the Be-Still tree or Devil Pepper. The plant was an important medicinal plant in the traditional Indian system of medicine. This plant is rich in alkaloids, and was traditionally used to treat hypertension, skin complaints and snake bite poisoning. Chatterjee isolated the compounds which were likely to have medical properties, and identified their chemical structure. She did this same process with dozens of plants, including *Marsilea minuta*, the active compound was used in the drug Ayush-56 to treat epilepsy, and *Alstonia scholaris*, *Swertia chirata*, *Picrorhiza kurroa* and

*Caesalpinia crista*. which all contain alkaloids that help treat Malaria. She also studied alkaloids in Madagascan Periwinkle, and they are still used as Chemotherapy agents.

An incredible woman, she received India's top science prize just 1 year after its creation, it took a further 48 years for another female Chemist to be recognised.

Happy Spinning

Katie

Further Reading/ Watching-

Articles about Asima Chatterjee

<https://thewire.in/gender/asima-chatterjee-alkaloids-phytomedicine-antimalarial-bhatnagar-google>

<https://feminisminindia.com/2017/11/02/asima-chatterjee-pioneer-medicinal-chemistry/>

<https://medium.com/sci-illustrate-stories/asima-chatterjee-1ca581dc542f>

<https://artsandculture.google.com/exhibit/women-scientists-of-india-dr-asima-chatterjee-indian-academy-of-sciences/rqKiCdKqS8Ullw?hl=en>

<https://www.youtube.com/watch?v=WlyfNQcrwI4>

Rauvolfia plants

<https://pfaf.org/user/Plant.aspx?LatinName=Rauvolfia+serpentina>

[https://en.wikipedia.org/wiki/Rauvolfia\\_tetraphylla](https://en.wikipedia.org/wiki/Rauvolfia_tetraphylla)

Fibre Content- In case your parcel is missing the label

25% Peduncle Silk

75% Merino