

THE SNAKE GIRL

BY AMNA RIAZ

It all started in ninth grade...

She was always known for her peculiar ways and peculiar interests. This time no exception either. So, one fine day, she started randomly started to read and write about snakes.

It wasn't rather random but she was exploring the subject of biology. As a big fat nerd, her interests lied in reading and surfing the internet about anything and everything related to wild animals.

Her source of inspiration were wildlife programs that used to get aired on National Geographic Channel and Discovery Channel. She eventually told her-fifteen-year-old-self that she will become a wildlife biologist one day.

During her biology lessons, she used to ask many questions. The questions were to such an extent that teachers started to get fed-up and used to tell her that she needs to wait another year and ask the same questions to a teacher of a higher level.

After high school got completed and it was time to decide on the colleges, she chose one of the most elite Biological Sciences Schools of her country. But alas! Her dreams got shattered when she received the rejection letter from LUMS and she had a breakdown.

Her parents wanted her to become a doctor as any Pakistani parent would want their daughter to become. Since she was confident that she would make it to LUMS, she didn't apply anywhere else and all admissions were now closed. Another reason was that there were only a handful of institutes in Pakistan that offered her dream field i.e., B.S. in Biology. She literally crashed in Karachi University.

With social suicide to isolation and also being singled-out, her journey was one hell of a ride in Karachi University. She didn't stop. From internships to conferences, from club memberships to organizing events, she still did it all. In her final year, she finally landed an internship at WWF-Pakistan.

Since she was brought down, she kind of held her downs low in the university and focused mainly on getting out of it in one piece. And WWF-Pakistan was actually her savior! She found what she was looking for... She found her Guru, her Research Mentor and her Guide there.

He was a very strict man with being a retired government officer and someone who didn't like to be corrected. He had served all his life in Marine Fisheries Department and retired as the Director General of the institute. He was serving as the Technical Advisor here at WWF and was the team lead.

Although, she was hired to work on a seabird's book, but she got around with snake research here as well. She was actually supposed to conduct research on ninety-six species of seabirds found in the Indian Ocean. This included painting more than two hundred and fifty scientific illustrations of seabirds, plotting their territorial maps and working on their scientific descriptions, she did it all. But along with this research, she also learned to identify different snake species scientifically.

Her mentor guided her to apply for Masters in Scotland. She did as he told her to do and got admission in Herriot-Watt University. But it was a conditional offer and so it was without a scholarship. Her dreams got shattered again and since she didn't want to waste any more time, she applied to an MPhil Program, but again, in University of Karachi.

The big step here was, to again, choose... her heart was still in snakes. Her Guru guided her for sure, but never answered her questions. He told her that snakes are a common member of many food webs and are found in almost every single ecosystem out there. So, if her interest is in the animal, she should not limit herself to a particular specialization. He further said that instead of opting for Wildlife, she should go for Marine Sciences. Reason being the scope of the field worldwide.

So, she did as she was told. The admission was done. She completed two semesters worth of coursework and finally it was time to step into the research world. She scheduled meetings with five professors of her institute. The different professors wanted her to work on their field of specialization and were not ready to listen to her dreams and hopes that she had with the program. Finally, the last one out of all five agreed to every single thing that she had in mind. This was still not enough. She still had her doubts. She wasn't sure if this professor is the one! To make sure of it all, she finally asked the same questions to which she has been looking for answers, for almost a decade now.

The questions were... A snake as an organism is a very limited species. It has infrared vision and hence only relies on temperature to see. It is practically deaf and only senses vibrations rather than hearing a sound. It smells through its tongue and relies completely on it for searching for food! It is limbless! Out of more than three thousand known species of snakes, only two hundred and fifty plus species are venomous. Yet this organism is one of the most abundantly found and most survivable species in almost every ecosystem of the world. It can survive extreme temperatures be it cold or hot and has survived two mass extinctions.

Her supervisor smiled and told her that she needs to find the answers to her questions herself. And then she suggested that the snake girl should work on the DNA of Sea Snakes.

After years of vigorous research, fieldwork and collection of alive and dead snakes from every isolated beach, virgin island, lagoon and untouched territory across the coastline of Pakistan, SHE DID IT! Only to be brought down by her own kind.

Even after achieving all this, she was brought down by her own kind! Her abstract got accepted and published at a national conference where zoologists from all over the country used to gather and share their work. When she presented her poster, one of the judges from the jury told her that she had copy-pasted all this work off google scholar. He further added that she has copied the work of some American or European researcher. The reason he gave was too difficult to digest! He said because she is a girl, it is impossible for him to believe that she had actually been to all the places that she 'claims' to have visited for sea snakes' collection and the cherry on top was another remark he made. He said that girls are afraid of cockroaches and how is it possible that she is not afraid of snakes! So, all of it was made up. She didn't cry but was outrageous! She complained and walked out with her head held high.

Another year into research, her two abstracts got published this time and she gave her oral presentation in front of many renowned scientists from across the country. They recognized, cherished and appreciated her work. She made sure to post her pictures with the snakes this time and the same jury member was spotted in the audience all sweating! It was revenge served cold like a dead snake straight out of the freezer ready to be dissected!

She became the first one in her country to conduct such research. She became one of them. She did it all that she had seen those explorers do on National Geographic Channel and Discovery Channel. She also became the first one in the world to conduct research on these particular set of genes that were the key to finding her answers.

Yes. She did it! She became the first Pakistani Muslim Woman (actually person) to conduct research on the DNA of sea snakes and she wears the titles proudly! Her work is on evolutionary biology and molecular taxonomy of sea snakes found in Pakistan. Furthermore, another interesting addition to her thesis was the histology of venom glands of sea snakes.

She is currently enrolled in a PhD program and is making her way into the field of sciences. She did it for all the little girls out there with big dreams. She did it to set an example for all those who make excuses and think that things cannot be achieved with limited resources or in a developing country. She did it to fulfil her mother's dream of achieving something big! She is now doing it all

for her daughter... For whom she has high expectations and knows that she is raising a strong woman for this world who would continue her legacy...