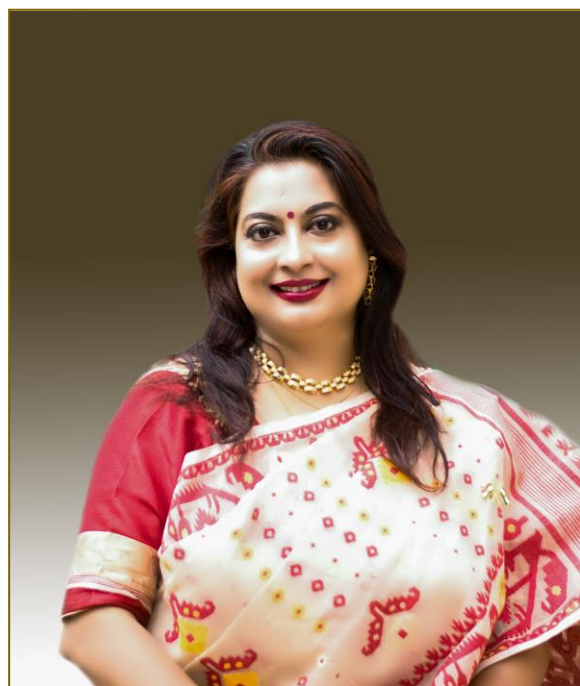


In Conversation with India's first woman chief of ZSI in 100 years: Dr. Dhriti Banerjee

A woman with illustrious scientific career, an entomologist with expertise in order Diptera worked on taxonomy, zoogeography, morphology and molecular systematics shares her journey in ZSI with IE associate editor Dr. Bhagyashree.

Dr. Dhriti Banerjee, the first woman Director of Zoological Survey of India, in the 106-year history of ZSI, a premier research institution on Faunal Biodiversity and Conservation under the aegis of the Ministry of Environment Forests and Climate Change, Government of India. She was born and brought up with school and college education in Kolkata. She did her under graduation and post graduation in Zoology from Calcutta University and Ph. D from Kalyani University, Nadia. She began her research career on the physiological effects of sustained use of abusive drugs in human and animals and was awarded with several fellowships and grants for her research projects. On completion of her Ph. D., she joined the Zoological Survey of India in 1998 as a junior research scientist, with in stint of two decades she has assumed the charge of Director. She is an entomologist with specialisation on flies (Diptera), her research interest includes taxonomy, molecular systematics, biodiversity, distribution, GIS mapping and climate modelling of flies and also on forensic dipterology. She had initiated molecular research in ZSI way back in 2011. Known as the Lady of the Flies she is also



into the science of Criminal Forensics and has found viable models of fly species which can be used for crime detection in Indian environmental conditions to aid law enforcing agencies. She was the part of the detective team which traced the grave of ZSI's first director-general Thomas Nelson Annandale, who was buried at the Scottish Cemetery in April 1924. She has spearheaded the ZSI faunal information system, multi-dimensional platform housing information, collections, spatial and

temporal data as well as genetics and molecular information about the faunal species.

Dr. Dhriti Banerjee is the lady behind the Digital ZSI; she was instrumental in digital ZSI initiatives as a co-ordinator of ZSI's Digital Sequence Information Project under which unique databases were established viz., Fauna of India digital library, ZSIFIS (Zoological Survey of India Faunal Information System) and ZSI Mobile APP for Protected Areas. This web-based information would enable all researchers, wildlife enthusiasts, students, policy managers, conservationists and anyone interested in biodiversity to access the specimens as well as available information of the National Zoological Collection and the Fauna of India by the click of a mouse. She has authored 26 books, 49 book

“There is no glass ceiling to break. It's only the chain – mental and emotional – that the women need to get rid of”

chapters and 219 research articles in peer reviewed reputed national and international journals and a few popular articles in vernacular language. Dr. Dhriti Banerjee is well decorated with awards and honours for her dedication towards faunistic studies of Diptera. She was conferred with the award of the “Exceptional Woman of Excellence”, by the Women's Economic Forum, at The Hague, Netherlands on the International Women's Day, 2018. Very recently she has been awarded the “Amazing Godavari Memorial Award for Excellence in the field of Education and Science” on the 30th January 2022. Dr. Banerjee has also been awarded with Nari Shakti Samman

Purashkar, 2022 by Society of Biological Sciences and Rural Development, Prayagraj in the celebration of International Women's Day, 2022. She has also been awarded with H R Mehra award by The Helminthological Society of India on 21st March, 2022.

Dr. Bhagyashree S N (BSN): Firstly, congratulations on being first women Director of the mega organization, tell me, how was your feeling after breaking glass ceiling at ZSI by becoming the India's first women director of ZSI?

Dr. Dhriti Banerjee (DB): Thank you very much. But frankly, I don't make much of this glass ceiling business. It is a much-hyped statement, only to make women feel a little better about themselves. Women have always demonstrated enough grit to not just lead but lead with admirable poise and grace. Draupadi, Cleopatra, Nefertiti, Razia Sultan, Madam Curie, Queen Victoria and Elizabeth, Golda Meir, Sirimavo Bandaranayake, Indira Gandhi, Indra Nooyi are names that stand and tell you that women reaching the top is not so much of an exception. In fact, that should be the norm. The trouble is that the male dominated societies globally have kept women tied down to home and hearth. That's the reason why you see fewer than desirable number of women at the top. There is no glass ceiling to break. It's only the chain – mental and emotional – that the women need to get rid of. Of course, it feels good to reach here and I sincerely hope it will work as an inspiration for many more women to break the shackles.

BSN: What was your childhood like and what inspired you to be the woman you are today?

DB: It was an ordinary childhood. As an only daughter, I was pampered but in a large extended family with number of brothers



This is how you feel when you've reached the TOP!

and sisters, comparisons were natural. I always felt a little less than others. I was blessed in that my father, like most Bengali fathers, made me feel special. For him, I was the brightest and sharpest child on earth. His expectations, coupled with a tough disciplinarian mother made me work harder at everything that I was supposed to do. I learnt to define my standards early in life and that has stuck. Getting inspired was not important. Getting it right (by my standards) was. I was always scared of failing to meet my father's expectations and my mother's standards. That helped me excel as a student. As I grew, I could see that women were spoken of more in terms of their physical appearance and beauty rather than their intellectual capabilities and accomplishments. I found it hard to accept. As I read more and more about women who were achievers, I developed this strong need to be identified more for my achievements and accomplishments rather than for my physical appearance. That perhaps was my biggest motivator and inspiration.

BSN: *How did you choose to become an entomologist especially taxonomist, is it by choice or by chance?*

DB: I didn't exactly choose to be an Entomologist. I was trained in physiology, Bio-chemistry and Hematology. I was selected simultaneously for the post of Lecturer in Zoology at a State College and for ZSI. The appointment letter for ZSI

came before that of the Lecturer post with a joining window of 1 month. So, I joined ZSI first and I guess it was destiny's choice that I join ZSI.



Figuring out if it's a fly of interest

BSN: *How was your journey at ZSI? Among so many Insect orders, why did you choose Dipterans??*

DB: When I joined ZSI, nobody was sure what and where I should be working. In the first one month, I didn't even have a place to sit. After nearly a month there were two departments that needed someone. I was not given any option and I was posted in the Diptera section. While at the university I was always fascinated by how you could calculate the time of a death or murder simply by examining the flies around the dead body. So, when I was given the choice, it was quite natural that I would opt for it. However, in hindsight, it was quite a good choice. There is so much to explore and learn about two winged flies and insects, it's amazing. It's like an entirely different universe. I am still fascinated by the element of surprise in our new findings and discoveries of new species which ZSI is doing in a regular basis.

BSN: *Usually it's human tendency to feel like, if I become Director, I would change this, I would do this, I would make this happen or doing something different, before becoming director what were the*

changes you dreamt of making and what were your imaginary visions?

DB: You must remember, before becoming the Director, I was Head of Office for a good 5 years from 2010 to 2015. Previous to that I was the Drawing & Disbursing Officer of ZSI. I was also Chairman of several committees including the Canteen Committee and also the General Secretary of the Recreation Club of ZSI. I have been working here since I was 28 years old. After 25 years I realize that there is no aspect of the organization that is unknown to me.



"You cannot evade my net"

From administration and scientific work to staff welfare association and recreational activities, there is no pie in which I didn't

have my hand in. Nothing in ZSI was new to me when I assumed the responsibility of the Director, ZSI. Administration and issues related to administration are not new to me. That exposure has also allowed me to remain grounded and understand that you cannot – in fact you should not – seek drastic changes. No matter how flawed a system or a process may appear, there is always some merit and logic in it. I was clear in my head that I do not need to dismantle the system. Yes, there is a need for a few changes, but those changes need to be brought in without any major upheaval. That is at the system and process level. The one area that I always wanted to work upon was the culture. We publish a lot of research paper. We have some of the finest scientists and researchers. But most of our work has been done in isolation. There hasn't been much collaboration or coordination with other agencies in India that are working in related fields, nor have we made much of a headway in terms of reaching out to scientists in other parts of world. I hope to build a culture of collaboration that would allow us set international benchmarks.



Leading the first all women high altitude expedition of ZSI



Dr. Dhriti Banarjee at her office

BSN: *Do you think biological clock and family pressure makes a women to take a back steps from aiming high/reaching greater heights in her career, though men and women are cerebrally equal in scientific and administrative skills?*

DB: I have a slightly different view. Most women are sharper than men. It's not a hollow claim. I was the top student in my class and women were in a minority in my class. Look at the 3 IAS toppers this year/ If you look at percentage representation of women, that is an amazing success rate. I

"I believe that a woman has the power to take an entire world."

believe women are sharper and more focused. The reason only a limited number makes it to the top, has more to do with the social norms and taboos than with the biological clock – as you put it. Apart from nursing a child, I don't see why a man

cannot be an equal partner in raising children or taking care of the elderly in the family. That is all that needs to be done. Along with maternity leave allow for paternity leave as well so that a husband can reduce the burden of a young mother and she can get back to work early enough after child birth. Stop expecting a woman to look after the elderly all by herself. The man must support her. If the responsibilities are equally shared, you will have the whole dynamics changing. You will not need to worry about the biological clock then.

BSN: *How would you like to see "Indian Taxonomy" in future?*

DB: Indian Taxonomy needs to have more experts covering all lesser-known groups. The subject needs to reinvent itself to draw more young blood. There needs to be more job opportunity than we have today. The taxonomy should have a wider perspective and should be put into much wider use. Only then the popularity of the subject and the importance of taxonomy will be in the rise.

Identifying species will be the mainstay of all biological research and all biologically used organisms mandatorily should be given a name but not be denoted by a number. For example, not every gene sequence uploaded in the NCBI has a name and it's designated by number. This easy designation of the species is an impediment to taxonomic expertise. There should be a diktat in all research related to basic biological sciences, criminal and forensic sciences and biotechnology that all biological species involved should be assigned a name. Through this process the education system and the industry would be forced to give recognition to taxonomists and there would be mandatory positions in these sectors for taxonomists to get gainful employment.

BSN: So many taxonomists are getting retired and this is the one of the major impediments in the field of taxonomy? What are you plans solve this??

DB: The problem can be solved only if the retired scientists are hired as consultants in the different institutes. They should also be assigned the responsibility of not only filling the gaps in research but also aim at grooming the second line of expertise in a particular field or taxa.

BSN: Many young taxonomists are just doing contract job and switching to other areas? And they are not confident in job stability in taxonomy due to the dearth of opportunities, what are you plans to create opportunities for young ambitious and desirable taxonomists?

DB: At present ZSI is working with fifty percent of its staff strength. The MoEFCC has plans for filling up all the vacancies in a mission mode. So, I am hopeful that Zoological Survey of India will be able to provide opportunities for young ambitious and desirable taxonomists in the years to

come. However, young and ambitious have to keep their eyes and ears open for the posts to be advertised and apply according to their expertise.

BSN: Do you think women feel like “An ants in the elephant world” when it comes to taking mega administrative job? And what are your suggestions to such desirable women’s who are giving up?

DB: I don't think so. In fact, women are conditioned to believe that “sacrificing” her interest for the greater good of the family is a noble act and therefore she must do it. And she does it gladly. Only to realize later in life that it wasn't worth it. I do not think women feel threatened or trampled upon. It's just that they are made to believe that being a “Sita” is her best choice. I worship Ma Durga. I believe that a woman has the power to take an entire world. It's just that she needs to know what she is capable. That's all!



A groupie with the most resilient Women of ZSI

BSN: When I was a student of taxonomy, major problem I have faced is inaccessibility of Indian types for study and comparisons while describing new species and to do revisions, how to overcome this?

DB: Inaccessibility of Type-Specimens for research may be addressed by visiting the institutions in India where the Type-Specimen are available. Any field of research whether applied or theoretical will have its own problems and all researchers should be capable of addressing the problem accordingly. Several Type-Specimen are available in digital platform and now a days it's a lot easier to access the Types than when I started my work in this field. Moreover, most museums and taxa experts readily share images with scientists in India since we are not allowed to send any biological material abroad. Accessing Types is an impediment but not an insurmountable one.

BSN: In general, Taxonomy is male dominated world as it involves loads of field expedition, when it comes to other ecosystem like aquatic, forest and wildlife fauna, it's really challenging for women, how can a women cope up with this?

DB: Gregor Mendel was not a gym goer neither was Rosalind Franklin. Like I have mentioned a little while ago, it's all in the head. I have been in the field and I have worked shoulder to shoulder with the men and I can say, no less effectively. Yes, there are a few challenges. For example, access to a decent hygienic toilette. But then, the men have struggles of different kind as well. It's up to a woman to decide how she is going to cope up with the challenges. If it's not this then it would be something else. One needs to be clear about what she wants to achieve. That would make every challenge seem like routine and not too difficult.

BSN: When faced with obstacles or hardships or challenges, where do you find the strength to overcome it?

DB: I worship Ma Durga. The way she took on an entire army of Asuras is inspiration enough. Every time I find myself in a challenging situation, I think of the challenge as an Asura to be slain. By the way Dhriti is another name of Ma Durga!

BSN: Can you tell me one female mentor or an inspiring female figure in your life?

DB: My mother. I know there are enough women in this world to be hero-worshipped. But if there is one woman who has been an inspiration it's my mother. I also like to add here my daughter happens to be my biggest cheer leader. I was always supported by my in-laws and my husband all through. I was never questioned on my decisions. The onus of it always rested on me. So, I guess I didn't have anybody to blame when anything went wrong. This was something I had learnt very early from my father. I could take decisions in most cases without consultations. That helped in a big way in making me own the laurels if they went right and also the responsibility of rectifying them solely rested on me when it went wrong.

BSN: My last question! As you are expert in digitalization, what are your visions on "Digitalization of Indian Taxonomy"?

DB: Digitalization of Taxonomic specimens is now the call of the day. It helps the custodian of the specimens in preventing rough handling and damage to the priceless specimens. At the same time, it helps the students of Taxonomy in accessing the maximum number of specimens at the click of a mouse. In today's tech-savvy world that the accessibility of specimen images to one and all automatically triggers enthusiasm in both students of Biology and students of

Mathematics, Computer and Engineering. Availability of photographs in your mobile phone, Instagram and Facebook will allow a person sitting in a remote village to know about the local fauna in his or her area. The future of Indian Taxonomy will be like “Har Ghar mein Taxonomists!”.

“You may say I’m a dreamer

But I’m not the only one.

I hope someday you’ll join us,

And the world will be as one.”

.....John Winston Lenon.

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