

A DIALOGUE WITH DR. JAGBIR SINGH KIRTI

GREAT TAXONOMIST,
TEACHER AND
ENTOMOLOGIST PAR
EXCELLENCE WHO SERVED
ENTOMOLOGY FOR 40
GLORIOUS YEARS



Awards: He was awarded with young scientist award by DST in 1990. His contributions have received international acclaim. Prof. Jagbir Singh is a recipient of an **International Award** of Japanese Society of Electron Microscopy and Kochi Medical School, Japan in May 1997. He is also the recipient of an award from National Academy of Vectors and Vector Borne Diseases for his outstanding contributions in the field of vector biology in 2004. Prof. Jagbir Singh received a unique distinction of the **“Roll of Honour”** in Canada from Panjab University Alumni Association, Toronto in 2005. International Vegetable Centre known as **AVRDC, Taiwan** selected and sponsored Prof. Singh as a **key resource person and Visiting Professor** for training entomologists in the field of Taxonomy/biosystematics in December, 2010. Indian Academy of Environment Sciences (IAES) has awarded him **Gold Medal** for his contributions to the cause of Environment and human health in general & bioscientific contributions in particular for the year 2011. A **Fellowship** award was presented to him by Indian Society for the advancement of Insect sciences in April 2011 in PAU Ludhiana as a distinguished Entomologist. **Bio-Tech International Award-2011** carrying an amount of rupees **1 lakh** on Vector Biology and Environment was presented to him on 15th Oct. at RMRC, Jabalpur. Prof. Jagbir was bestowed with **‘Global Vigyanik Award-2012**, in September 2012 by Global Punjab Foundation.

Dr. Jagbir Singh Kirti (Prof. Retd), Department of Zoology and Environmental Sciences, Punjabi University, Patiala did his graduation and post-graduation from Panjab University, Chandigarh and Ph.D from Punjabi University, Patiala. Dr. Kirti is a distinguished entomologist and environmentalist, working in the field of Vector Biology in general and taxonomy and systematics/biodiversity in particular. He is teaching post graduate students of Entomology/Zoology in the Punjabi University, Patiala since February 1986. He remained Head of the Department of Zoology and Environmental Sciences, Punjabi University, Patiala from 1st November, 2012 - 31st October, 2015 and **Director** of the DST-SERB School in Insect Biology from 2015- 2018.

Publications and Projects: He has published **315** research papers in National and International journals besides **9** important books in the discipline of Entomology. He has successfully completed **11** Major Research Projects sanctioned by various funding agencies. He has discovered more than **140** new species of moths and many new genera.

He was honored with **Rachel Reuben Medal-2012** in October at CRME, Madurai. He received an **Eminent Scientist Award- 2014** at Kolkata in March, 2015. **Life time Achievement Award** by School of Entomology, St John College Agra in 2016 and another **Life time Achievement award** by Ronald Ross institute, Hyderabad in 2016 were conferred on Prof. Jagbir Singh. **Dr. J.S. Yadav oration Award** by Department of Zoology, Kurukshetra University was given to Prof. Jagbir on 24th November, 2016. Third **lifetime achievement** award was bestowed on him at Dehradun in an international conference on taxonomy organized by Zoological Survey of India (ZSI, Dehradun) & Dolphin (PG) Institute of Biomedical & Natural sciences, Dehradun on **28th November, 2019**. He received an award **ISMOCD, 2023** for outstanding work on Vector Biology by Indian society of Malaria and Communicable Diseases. **Best Taxonomist** award was conferred by the organizers of Indian **SOVE- 23** at **VCRC**, Puducherry and presented by Hon'ble Lieutenant Governor of Puducherry and Hon'ble Governor Telangana on **16th March, 2023**. Society of Medical Anthropology (**SOMA**) conferred '**Distinguished Scientist Award – 2023**' during an International Conference held at Kozhikode, Kerala from **December 13th – 15th, 2023**.

He has guided **28** research scholars to Ph.D degree and an equal number of M. Phil students. **Two** more Ph.D scholars are still working under his supervision. He remained an **Expert/Advisory** member of different organizations like DST, ICMR, DRDO and UGC of the country. Presently, he is an expert member of MoEFCC, New Delhi. He has delivered keynote addresses, lead talks and an invited lectures in numerous National and International conferences, symposia, workshops and training programs **throughout the world**. He is a Convener, President, Director, Executive member / life member/ honorary member of many National and International bodies/organizations.

“Indian Entomologist had the privilege of interviewing Prof. (Dr.) Jagbir Singh Kirti, Lepidoptera Taxonomist. Dr. Rahul Joshi,

Scientist D, Zoological Survey of India, Kolkata, interacted with Prof. Kirti (JSK) and the excerpts of the discourse are presented below.”

Rahul Joshi (RJ): *Sir, thank you for speaking to Indian Entomologist magazine. How did you first become interested in Science?*

Jagbir Singh Kirti (JSK): There was no one pursuing science in my family. My father was a revenue officer and doing agriculture side by side and my mother is housewife. I was the eldest in my family and all my three brothers are younger than me. I had no inkling that I was going to have interest in science, or even that it could become such an enjoyable and excellent activity to be an entomologist.

RJ: *Can you share with us about your initial interests in Entomology during your studies?*

JSK: I was very lucky to get admission in B.Sc. (Hons. school) in the department of Zoology at Panjab University, Chandigarh in 1975. Initially I opted for Botany and Biochemistry as two subsidiary subjects in my B.Sc. (Hons. school). After graduating in Zoology, I was selected as M.Sc. (Hons. school) Zoology students with Entomology as my specialization. I was fortunate to get my mentor/supervisor as Prof. Dr. Hans Raj Pajni, a renowned International entomologist my guide for M.Sc. thesis work. During one and half years working on a taxonomic problem on Noctuid moths under his guidance laid strong foundation for my career in the beautiful discipline of entomology.

RJ: *What are the driving factors that made you to take Taxonomy? Who is your role model or who you admire in your professional life?*

JSK: During my Viva Voce examination of M.Sc. thesis, Prof. Dr. Santokh Singh, a leading taxonomist and entomologist from Saint John's College Agra, advised me to work in North East India on the taxonomy of moths for my future research career. Later on, I completed my doctorate in Punjabi University Patiala and was awarded the Ph.D. degree

in March, 1985 on the taxonomy of Pyraustinae subfamily under the supervision of Prof Dr. H.S. Rose who was also the first Ph.D. student of Prof. H.R. Pajni. I honestly admit here that Prof. H.R. Pajni and Prof. Santokh Singh were my role models. It is worth mentioning here that I got a chance to work in entomology research institute (ERI) at Chennai in 1990 for three weeks under the guidance of Prof. T.N. Ananthkrishnan, a doyen of Entomology in India. He was also great role model for my further career.

RJ: Travelling to North eastern states 40 years back was not so easy and that too all alone. What were the challenges you faced during initial stages of your research during surveys in North East? As you have completed many projects in North East, what do you feel have changed in these days? (If you can share some of the pictures of that days, that would be really great)

JSK: As far as Travelling to Northeastern states was concerned almost 43 years back it was a very tough task. I used to conduct collection cum survey tours during 1981 to 1984 in remote areas of seven sister states all alone at night time. Travelling from Punjab to Guwahati and Dibrugarh by one or two trains and crossing Brahmaputra from Dibrugarh to North Lakhimpur/ Arunachal Pradesh was also not very easy. I remember many stories when I interacted with different tribes for example Khasi's, Jaintia's, Naga's, Nocte's and many others. Language was a major problem, besides food and shelter in remote tribal areas. Sometimes, i used to sleep in front of the houses of tribal people in Jatinga in the North Cachar hills. Many times, it was also walking at midnight from Jatinga to haflong (about 9km) for accommodation in inspection bungalow with collection equipment i.e. Light traps, insect storage boxes etc.

RJ: Do you think choosing Taxonomy as a career was the right choice? Or you think you should have opted for some other specialisation?

JSK: I honestly admit that taxonomy was a right

choice for me. I was very fond of travelling and staying in the lap of mother nature in beautiful surroundings having dense forest and vegetation. I am a hardcore taxonomist and after guiding thirty Ph.D. students and many M.Phil. students on various taxonomic aspects, I am fully satisfied with my career. I am thankful to the Almighty for bestowing upon me his choicest blessings and fulfilling my wishes to work in this beautiful branch of biological sciences.

RJ: Being a Professor in university, you have attained a high profile in research also. How did you balance both teaching and research?

JSK: Teaching is also one of my passion and I was fortunate to be selected as a curator, lecturer cum Curator, Associate Professor and Professor in Punjabi University, Patiala. During 35 years of my academic career in teaching and research, I could make balance in both the fields. Both these areas i.e. teaching & research gave me an equal opportunity to travel intensively and extensively not only in India but also many other countries.

RJ: Can you elaborate on your research on Lepidoptera taxonomy, specially the Arctiid taxonomy in India?

JSK: I got initial training from my respected guide Prof. (Dr.) H.R. Pajni while working on 60 Noctuid moth species from Chandigarh and surrounding areas. He guided and trained me on the morphology of moths in general and laid stress especially on sensilla, sutures, sclerites, genitalic features and other morphological structures particularly in moth species as a part of my thesis. With this strong base, I selected family Arctiidae as one of the important group of moths for my research work after my selection at Punjabi University, Patiala. I am proud to have worked with many hard working, sincere, dedicated students and all of them helped me to build up one of the best laboratory in lepidoptera taxonomy in India at Punjabi University, Patiala.

RJ: *How important do you think are National Zoological Collections in India. You have recently donated collections to Zoological Survey of India also. Can you share the thoughts behind that?*

JSK: One of the most important duty of a taxonomist is to enrich our National collections lying in our National museums. This is the only way that all the taxonomist working in different animal groups should deposit their collections in National museums so that our future younger taxonomist has not to depend upon collections lying at International museums in foreign countries. Working for more than 35 years and building a huge collection of lepidoptera gave me an opportunity to deposit our lepidoptera collections at ZSI museum Kolkata. All the holotypes and paratypes of new species i.e. more than 140 have been deposited in the lepidoptera section. Some of the collections have also been deposited in the Entomology museum of IARI (Pusa) New Delhi and FRI, Dehradun

RJ: *You have worked on taxonomy of other insect groups also. Can you share some light on these studies?*

JSK: Besides Lepidoptera, I worked on the taxonomy of mosquitos i.e. family Culicidae. We have worked on the ultrastructures of antennae, mouth parts, legs, genitalia, cibarium etc with the use of scanning electron microscope. Many new taxonomic attributes have been added in the diagnosis of various taxa of family Culicidae. This work has given us International recognition in the field of Culicidae taxonomy. One of my student has also worked on the taxonomy of dragonflies from Northwest India. Some of the M.Phil. and Ph.D. students have completed their studies on the taxonomy of various families of butterflies also.

RJ: *Impact factors in taxonomic publications are very low. The common question faced by the young researchers in most of the interviews, your views on this?*

JSK: I don't agree with this system of impact factors, Citations and other such criteria as far as work

on the taxonomy of various groups is concerned. Taxonomy is a unique science and one can spend his/her whole life on a particular group. We cannot compare taxonomy like this with other branches of sciences. There are very few taxonomists left in our country as well as abroad and the citations are very low in taxonomy. Writing a monograph in taxonomy is much more challenging then the publications of the other branches of biology.

RJ: *Being a member of many National/international committees, could you please highlight some of the initiatives to uplift Taxonomic research.*

JSK: As part of different committees at National level, I have always worked for the interest of taxonomists. Many new research proposals were sanctioned on taxonomy of different groups during my tenure in National committees of UGC, DST, ICMR, MOEFCC etc. It was with lot of difficulty that we could start the All India coordinated project on taxonomy (AICOPTAX) once again but sadly the funds were not released by the MOEFCC.

RJ: *Younger taxonomists are not much more inclined towards classical taxonomy these days. What's your advice to the young researchers in the field of taxonomy?*

JSK: In my invited talks I always say Taxonomy is "Tax on me" and I tried my level best to inspire young research fellows to work in this field which is more challenging and need a lot of hard work. We have to inspire and attract young biologists/ taxonomist towards this beautiful science. Now a days ZSI Kolkata has recruited lot of young taxonomist in this field and recently ICMR has also recruited 18 young entomologists at various centres working on vector biology. We should all work to attract young researchers in this area and we have done it by organising three SERB Schools in Insect Biology. As many as 75 young scholars/ researchers have been trained in the discipline of Entomology with emphasis on taxonomy, molecular aspects and some

more areas.

RJ: *How would you like to see “Lepidoptera Taxonomy” in future?*

JSK: I see a very bright future of Lepidoptera taxonomy as some of my students are now working in senior positions at ZSI and some other institutes. They are working tirelessly and with lot of dedication on the taxonomy of this wonderful order. Some other young scientist are also working at IARI and some other institutions.

RJ: *What do you do to keep yourself busy these days? I have heard that you are very much engaged in highlighting the Environmental issues and motivating the youth regarding safety of Environment.*

JSK: Teaching is one of my passion and I love to talk about Environment, mother nature, conservation with people of all ages. Initially our Department was known as Department of Zoology up to 2011 and its name was changed to Department of Zoology and Environmental sciences in 2012 after I took as HOD of this Department. Actually, it was in 2007 when I started going to schools, colleges and other institutes to inspire the students for protecting their environment and biodiversity. Later on, we started celebrating biodiversity day, environment day, ozone day, wetland day, earth day etc. at various places in north west India. Many programs were arranged in the rural areas for educating farmers regarding planting

of trees, organic farming and conservation. It was a pride moment for me when I delivered a keynote address to 700 Scientist/delegates from 50 countries in Turkey during International conference i.e. Ecology 2018. I feel it is the need of the hour to educate students, teachers, and all other people for protecting the environment, biodiversity and for a healthy life on this planet.



Dr. Rahul Joshi completed his Ph.D. on ‘Taxonomic studies of Indian Lithosiinae and Ctenuchinae (Lepidoptera)’, from Punjabi University Patiala in 2013 under the supervision of Prof. (Dr.) Jagbir Singh. Dr. Joshi joined Zoological Survey of India in 2017 and is presently, working as Scientist ‘D’ in the Zoological Survey of India, HQ, Kolkata.

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Dr. JS Kirti with his mentor Late Prof. H.R. Pajni