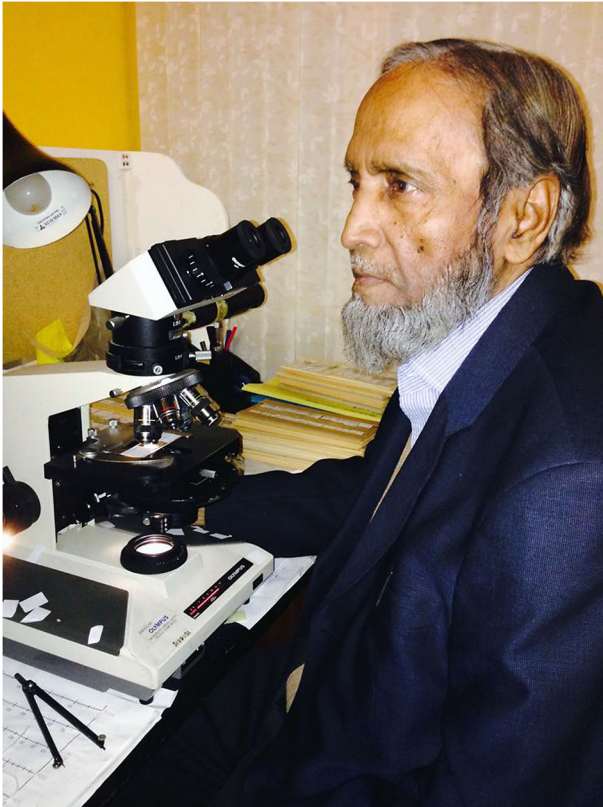


## Obituary

### Mohammad Rafiq Siddiqi (1934-2017)



Dr Mohammad Rafiq Siddiqi, “one of the most influential and cited nematode taxonomists in the history of the discipline”<sup>\*</sup> and a researcher, thinker, teacher and family man, passed away peacefully on 25 August 2017 after a short illness. He was 83 years old.

He was also my dear Papa. My siblings and I grew up in a household where Nematology was always going to be part of our life because my father lived and breathed it. I witnessed him at work first hand and saw that for him it was not just a vocation but his lifelong passion and

<sup>\*</sup> See the *International Journal of Nematology* 24 (2014) in which several testimonials and tributes from nematologists were collated by me for my father’s 80th birthday commemoration issue. Several of the quotes are taken from there.

commitment. Each nematode that was viewed down the microscope was very much an individual to him and it seemed as if he could differentiate between each one, even those of the same species.

My father’s momentous output of work on the taxonomy and morphology of plant-parasitic and free-living nematodes has already secured him a lofty place in the history books of Nematology. The bare statistics show 284 research papers, dating from 1959 (several posthumous papers will be published). These detail the proposal of one new subclass, 15 new orders, eight new superfamilies, 31 new families, 31 new subfamilies, 248 new genera, and 671 new species and subspecies of Nematoda. In addition, two new genera and 28 new species of Nematoda have been named after Dr Siddiqi for his distinguished contributions to Nematology on the systematics, morphology and evolution of plant and soil nematodes of the orders Tylenchida, Aphelenchida, Dorylaimida, Mononchida, Triplonchida, Alaimida and Diplogastrida. This lifetime of work is cited and regularly used by nematode researchers throughout the world.

Dr Siddiqi’s *magnum opus* is *Tylenchida parasites of plants and insects*, acclaimed as a “Milestone in the history of Nematology” (I. Andr assy, Hungary) and the “Taxonomists’ ‘bible’ for the Tylenchida” (E. Geraert, Belgium). The first edition of this 850 pages long tome came out in 1986 (Siddiqi, 1986), followed by a revision in 2000 (Siddiqi, 2000). It is the go-to reference book for this Order of Nematoda and presents full generic diagnoses and differential keys for all 225 valid genera and provides information about 2828 species considered as valid. It is full of his distinctive, and much admired, precise and exceptional illustrations and “as a scientific illustrator, his work ranks among the best in all of Nematology” (D.J. Raski, USA). At the end of the Preface to Tylenchida, he characteristically invited readers to “. . . please improve upon my ideas expressed in this book and oblige the scientific community. . . . concerning the classification as given in this book, any improvement would be most welcome”.

As noticed by others, his extraordinary attention to detail and an exceptional ability for detecting evolutionary relationships led to his bold and challenging hypotheses on the evolution and classification of nematodes. These attracted criticism and were challenged by other experts of the time, generating further research. Years later, many of these proposals have been validated by molecular phylogenetic studies and “in many ways his unique insights were well ahead of his peers” (J.G. Baldwin and P. De Ley, USA). His early views on the independent evolution of aphelenchids from tylenchids, and of dorylamids from trichodorids have been reinforced by new data. He was respectful of other people’s views but stuck to his guns despite the opposition. Dr F. Shahina, Pakistan, remembers him as a distinguished philosopher with an innate confidence in his ‘intuition pump’. She said this describes exactly what he uses when he is solving a problem or explaining something difficult to his audience. To understand where this self-belief and discipline came from you must first learn a little more about his life.

According to records, my father was born at Tarahuan village, Karwi, Uttar Pradesh, India, on 6 May 1934. He was the sixth son of a family of seven sons and a daughter. His father, Mohammad Salim Siddiqi, was a district lawyer and alumnus of Allahabad University, and his mother, Mumtaz ul-Nisa, was from a well-to-do family from the nearby fortress city of Kalinjer.

Karwi is now officially called Chitrakoot Dham and lies on the banks of the river Mandakini. Within the vicinity are various holy sites mentioned in Hindu scriptures, including the fabled deep forest where Ram, Sita and Lakshman sought refuge for a while. For sustenance and adventures, Siddiqi senior and sons went deer (Sambhar and Barasingha) hunting in the jungle and hills surrounding Chitrakoot, which means the ‘hills of many wonders’. Occasionally, they would be surprised by a tiger or wild boar but all lived to tell the tale. Hunting was legal in those days but the jungle and tigers are now long gone. He told us ‘shekari’ or hunting tales of how he would spend hours in the middle of the night just keeping still, and watching and waiting for the animals to turn up for their nocturnal activities around the local watering holes. This was the mindfulness training which would later serve him well when sitting at a microscope for hours on end, zoning everything else out and hyper-focusing on the work in hand. A Chital deer skin and two deer heads always hung in the front room of father’s home in England to remind him of those carefree days.

The four older Siddiqi brothers, who had qualified as teachers and engineers, helped fund the higher education of their three younger siblings who all went into academia. My father repaid this debt by coming top in the UP State board exams and going onto DAV College, Kanpur (like his father before him), and graduating with a first degree from Agra University. After this he went to the famous red-brick Aligarh Muslim University (AMU) in UP, winning a gold medal for his Zoology M.Sc.

Around this time, Professor M.A. Bashir, the Head of the Zoology Department at AMU, had recently established Plant Nematology as a distinct discipline for post-graduate teaching and research. It was he who advised my father to take up this area of study. The Professor was a hard task master and Dr Siddiqi obtained his Ph.D. on the studies of plant-parasitic nematodes of Uttar Pradesh (North India) in 1960, and named his first new nematode, *Basiria graminophilia* n. g., n. sp. (Siddiqi, 1959) after his mentor. This first paper was published in the prestigious journal *Nematologica*. This was followed by a D.Sc. on plant-parasitic and soil nematodes in 1964. During his studies, he was hired as a Lecturer in the Zoology Department where his oratory skills became legendary. His former student and later colleague, Dr S. Jairajpuri, recalled that when he was only a research scholar in 1958, Dr Siddiqi came to deliver a lecture to their B.Sc. final year class in place of a teacher who was on leave. He remembers that not only did Dr Siddiqi do full justice to the topic but had the courage to say to us – “I challenge you to put any question to me not only on today’s topic but on any topic in Zoology”. Dr Jairajpuri says they looked at him with awe and were sure that this man was ‘built of steel’ and was bound to reach great heights. He also stated that in letters written to him by Professor Gerald Thorne, the latter had advised him that he would do well to learn under Dr Siddiqi’s guidance, and that the Professor also greatly admired my father’s beautiful and outstanding nematode drawings.

My father found time to collaborate with Professor Charles H. Southwick, a Fulbright Research Fellow at AMU, in establishing ecological studies of primates in India. Between 1959 and 1970 they published nine papers, including a chapter in a book, specifically relating to population dynamics and behaviour of rhesus monkeys. The work has continued since 1961 under the auspices of the Johns Hopkins Center for Medical Research and Training, and the University of Colorado, Boulder, USA. His younger brother, Dr M. Farooq Siddiqi, formerly

of the Geography department, AMU, continued to assist Professor Southwick for many years afterwards.

In between his studies and teaching, my father managed to fend off the naysayers and border controls to travel to Pakistan to pursue the hand of his childhood friend, Rashida Fatima Qureshi. Having lost her own mother at age 10, my mother had moved from Banda, UP, to Pakistan with her siblings a few years after the Partition, as had three of my father's brothers. They regularly wrote to each other and as her older sister Sayeeda had married his older brother Agha Kamal that gave him a good excuse to go and visit her. They married on Boxing Day, 26 December 1961, at her maternal aunt's home in Karachi and together they came back to India where she was reunited with her beloved father. They went on to have five daughters (Safia, Salma, Somaiya, Sayeeda and Saboohi) and a son (Soheb) in the first 12 years of a 45-year-long and happy marriage, which ended following my mother's death on 29 October 2006. It was she who was the rock and who provided the continual support and stable home life to my father, and when she passed the loss was palpable to all those who were near him.

In 1962 there was a visit to the AMU by Dr Freddie Jones and Dr Basil Goodey from the Nematology Department, Rothamsted Experimental Station (now called Rothamsted Research), Harpenden, UK. It was at this meeting that Dr Siddiqi was marked out for future fame and fortune in a faraway land. Short research and training assignments followed at the two top nematology centres of the time at Wageningen Agricultural University, The Netherlands and Rothamsted, UK. In 1967, he accepted a 3-year contract as Senior Nematologist at the Commonwealth Bureau of Helminthology, which was located in St Peters Street, St Albans, UK, in a Georgian building known as 'The White House', and the family moved to the UK. Shortly afterwards, the Director, Sheila Wilmott, received a letter from her new recruit's father-in-law, saying that she was to send them back in 3 years as the family should not leave India. However, the Siddiqi family did not return to India permanently and ended up making England their much-loved home. The White House was a family-friendly and welcoming place and the young Siddiqi family would often drop in for informal lunch or after school visits. My father would let us sit in his big revolving chair and we would eagerly peer down his microscopes to see the little creatures that he so loved and worked on all day. This was not the first time I went to my father's workplace – he was often seen cycling around Ali-garh with his infant daughter perched in the wicker basket

in front, and some days he would take me to the Zoology Laboratory at AMU. My mother would recount that I always returned with nematode tattoos stippled on various limbs, the work of my father's lively students practicing their freshly learnt art. The roles were reversed when, nearly 20 years later, I started work as a Scientific Information Officer at the same Institute and regularly drove my father there by car. It was 1986/1987, and by that time it was known as the CAB International Institute of Parasitology (IIP) and had moved back to where it had originated in 1929 at Winches Farm, Hatfield Road, St Albans.

Many scientists from around the world came to visit and work at the Institute in its heyday. George Poinar Jr, who was based at Rothamsted for a year in those early years, remembers that he and other visitors such as Dr van der Laan would jump in Mary Franklin's car and go over to St Albans where long and interesting discussions would take place between them and my father, especially on tropical nematodes that had been collected by others to be rapidly screened and accurately identified by Dr Siddiqi. He cites Dr Siddiqi's 1980 paper entitled 'The Phylogeny of the Nematode Orders Tylenchida Thorne, 1949 and Aphelenchida N. Order' as well as his seminal 1983 chapter on the 'Evolution of Plant Parasitism in Nematodes', as two of the most excellent and significant in his opinion.

Dr Siddiqi officially retired as Principal Nematologist in 1994, by which time the 'bureau' where he had started his international career had gone through three name changes and one location change. He continued as part-time Emeritus Researcher at the CAB International Institute of Parasitology and continued to use the facilities until IIP closed in 1998, when it was merged with the other CAB Institutes to form CABI Bioscience in Egham. It was around this time that he retrieved several books, journals, reprints and equipment that were being discarded and these were saved and brought to the family home. This was the beginning of the Nematode Taxonomy Laboratory at 24 Brantwood Road, Luton, UK. Two research microscopes he had worked with while on service with CABI were loaned to him and he continued to work on sampling and identifying nematodes until the very end, 23 years after officially retiring. His career came full circle when he was also consulting taxonomist at Rothamsted from 1994-2004. Dr Qudsia Tahseen, India, first met him there in 2001 and found him in an office on the ground floor of the Daniel Hall building. She remembers the way he warmly welcomed her and enthusiastically showed her slides of some unusual species of nematodes he was working on.

Later, in a CABI centenary anniversary review publication, his former IIP co-worker, Dr David Hunt remarked that Dr Siddiqi “. . . is probably the outstanding plant nematode taxonomist of the 20th century”. My father was very much moved by this tribute and I am pleased that he could see this and other accolades in his life-time.

Dr Siddiqi initiated the formation of the Afro-Asian Society of Nematologists (AASN) during a meeting at the 1990 Nematology Congress held at Veldhoven, The Netherlands. Other nematologists attending this first assembly included myself and, as I recall, Pierre Baujard, Parwinder Grewal, Shashi Sharma, Daniel Orion, Rodrigo Rodriguez-Kabana and Moussa El-Shawadfy, amongst others. Major AASN conferences were held in Egypt and India while Dr Siddiqi was President of the society. My father's last, but my mother's first, attendance at an International Nematology Congress was at Tenerife in 2002 where he happily signed copies of the second edition of his *Tylenchida* at the CAB International book stand that I was manning.

In 1991, Dr Siddiqi began publishing an independent nematology journal called the *Afro-Asian Journal of Nematology* (AAJN), known since 1997 as the *International Journal of Nematology* (IJN). He was not only the Editor-in-Chief for 25 years but also its main typesetter, publisher and distributor. He never forgot his roots and remembered how difficult it was for young and new researchers to get their scientific papers published, especially those from developing countries. Condolence messages have been received from current nematology researchers from all round the world and several not only mention that he was like a father figure to them but also someone who always helped, encouraged and got them enthusiastic about this subject. Even those who had never met or contacted him personally say that they used his publications throughout their career.

Over the years, Dr Siddiqi had been active in the international promotion of nematological research, serving on journal editorial boards, chairing conference sessions, being involved in research and training courses in all continents, and contributing to radio and television programmes on science. For several years he taught a module on the identification of plant-parasitic nematodes for a postgraduate diploma course on Nematology held at Imperial College, London, as well as at the biannual plant-parasitic nematode identification and training course at IIP, St Albans. He was elected Fellow of the Institute of Biology in 1982 and Fellow of the Linnean Society of London in 1984.

Maria Vinciguerra, Italy, first met him in Bari in 1980 and calls him a true giant of nematology. She says “In a time, such as the present one, when scientists tend to restrict their research activities to very specialist precincts, Prof. Siddiqi, due to his encyclopaedic knowledge and interests in various nematology fields, was representative of an extinguishing category of scientists who have marked the story of nematology. The colleagues and the students who have had the privilege of his friendship will miss his wide experience and competence but we will always remember the kind, serene, collaborative man that he was.”

Aside from the colossal output of nematology work, he also found time to translate and interpret the Holy Qur'an coming up with hypotheses that only space and time can validate. He pored for years over other Qur'anic translations and spent time reading books on quantum physics and cosmology. He thought that the word of the Almighty was compatible with science and the Universe theories. He would spend time discussing his faith with believers of other faiths and non-believers alike. He carried out this work with the same level of enthusiasm and passion as he did with his nematology work. His knowledge of Arabic was impressive and mostly self-taught. This translation work is now complete and is awaiting proof-reading and publication posthumously by his children.

A stream of visitors from around the world came to the family home over the years, many of them luminaries of the nematology world, some sadly no longer with us. Quite a few were invited on the spur of the moment but were always welcomed. One day my father returned with Dr Raski and Dr Maggenti who were on their way back to London after a nematology meeting in the early 1980s. After enjoying my mother's legendary kebabs and other culinary delights and my father's jocular tales, a lively after dinner taxonomy debate carried on through to the next morning. Visitors to the Siddiqi household mentioned the hospitable, down to earth and humble side of our parents' nature. We remember them as firm but loving and nurturing. My father had boundless energy and an insatiable zest for life and knowledge. He also enthused us and others with his latest business venture or latest electronic device. He was an early adopter of the latest photography and video making equipment and we entertained ourselves with homemade family movies. We watched old Hindi films together and sang along with songs from my parents' youth. He was a champion of equal rights for women and told his daughters not to

complain about inequality but to go and fight against injustice.

In his sunset years, Dr Siddiqi continued studying and learning with the same rigour and dedication as in his early years. He was identifying and discovering new nematodes, producing the IJN and conversing with authors and researchers, discussing the Universe theory of space and time, and completing his Qur'anic translation work. He would also now take longer trips out to UP, India (he had built a holiday home in Karwi in 2012), where he would continue to be invited to give lectures at the Indian Agricultural Research Institute, New Delhi, and the Bioved Research Institute of Agriculture and Technology, Allahabad. His last India trip was in late 2016. He was also a philanthropist and funded numerous local persons for educational courses or business start-ups. He enjoyed the regular company of his nine grandchildren (Wahhaj, Shaheer, Arsalaan, Nabeelah, Saira, Sofia, Yasmin, Zahra and Haider), who called him Nana. He would teach them, enlist their help in his nematology work, tell them stories about India, and raise their aspiration to study hard and to acquire knowledge, much as he did with us.

A bag of soil from Dorset, UK, was waiting for my father on the day he was taken into hospital after an acute infection and fall at home. Whenever anyone went on holiday his only request for a souvenir was for a fresh bag of soil or a vial full of nematode species. His mind was young and active as ever but various ailments had weakened his body. Nine days after being admitted in the same Luton & Dunstable hospital where his beloved Rashida had died 11 years earlier, my father passed away in the early hours of 25 August 2017. To Al'lah we Belong and to Al'lah We Return – Surah Al-Baqarah 2: 156, is the Qur'anic phrase recited whenever a Muslim hears of someone passing away and it is the one which was at the core of my father's belief. It was an auspicious

holy day for us being a Friday and the third day of the annual Hajj pilgrimage. Verses from the Holy Quran were being softly recited in Arabic as his consciousness left this earthly abode. He was surrounded by his six children, nine grandchildren, a nephew (Imran) and two of his sons-in-law. He is also survived by his brothers, Haleem and Farooq.

A Fitting and most Distinguished ending to a Life  
most definitely  
Cherished and Lived to the Full.

Safia Fatima SIDDIQI-HIBBERT  
eldest daughter of a much-loved Papa  
Winchester, UK  
safiafiddiqi@gmail.com

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