

## 1.1 Defying Limits and Bounds

**Glimpses of the life and science of a visionary biologist, Dr. S. Jones**  
 Founder President, Marine Biological Association of India

**P.S.B.R. James<sup>1</sup> and D.B. James<sup>2</sup>**  
 Fellows, Marine Biological Association of India

Santhappan Jones was born on the 27<sup>th</sup> August, 1910 at Kovalam in the Kerala State as the fifth and last child of his parents. He had his early education at Venganoor near Kovalam and at Trivandrum. He graduated from the Maharaja's College of Science, Trivandrum in 1933 and worked in the same college as honorary research scholar for an year. Later he joined the Zoology Laboratory of Madras University on a scholarship under Prof. R. Gopala Aiyer and obtained the M.Sc. degree in 1937 for the research on breeding and development of brackishwater fishes. His work on fishes attracted the attention of well known ichthyologists like Dr. Bains Prasad, Dr. Sunderlal Hora and Dr. B. Sundara Raj. He worked for a brief period at the Colombo Museum and Madras Christian College before joining the erstwhile Travancore State Service as an entomologist in 1937. He continued his entomological research work for about 10 years, contributing to the control of the coconut leaf roller, rice swarming caterpillar etc. He established the first research station on cardamom at Pampadumpara and worked on cardamom pests like thrips, hairy caterpillar and weevil and published papers in reputed journals. Dr. Nelson Annandale, the founder Director of the Zoological Survey of India, who laid the foundation for zoological research in India, was his role model.



Dr. Jones had a great passion for science from his college days. Three of the animals collected by him, two new genera of pselaphognathous diplopods and one new genus of gryllid, were described as new to science. A large number of myriapods, terrestrial isopods, fishes and several other species reported as new to science were named after him. He brought to light the existence of the true external gills in the teleostean fishes as exemplified in *Acentrogobius viridipunctatus*, and the origin of the cement gland in the cichlid fish, *Etroplus maculatus*.

Dr. Jones got married in the year 1940. Mrs. Edith Jones was a very meek, patient, loving, amiable, kind, generous and hospitable lady. She was devoted to her husband and children, two daughters and one son. She took care of the family patiently without a demur of the inevitable 'neglect' from her husband who has taken science as his 'sweet heart'. Her health deteriorated in later years of life and she passed away a few years before the demise of Dr Jones.

In 1945, the University of Travancore did an injustice to Jones by withholding the award of Ph.D. degree to him which was duly recommended by the Board of Examiners, to deprive him of a higher post subsequently. On learning the

<sup>1</sup>Former Director, CMFRI and President, MBAI

<sup>2</sup>Former Principal Scientist, CMFRI



truth, the examiners expressed their protest by returning the remuneration they received. The University covered it up by passing on the tainted money to *Vanchi Poor Fund!*

Dr. Jones was appointed Head of Estuarine Fisheries Division of the newly established Central Inland Fisheries Research Institute (CIFRI) at Barrackpore, Calcutta. At this Institute he did research on fisheries of India and the life histories of fish for which he was awarded the D.Sc. degree by the University of Madras in 1952. He held charge of the Chief Research Officer of this Institute during 1951-52. His tenure at the CIFRI saw outstanding contributions on the Indian shad, *Hilsa ilisha* and the fish and fisheries of the Chilika Lake as part of estuarine fisheries research.

In the year 1954, he was unexpectedly transferred to the Central Marine Fisheries Research Institute (CMFRI) and posted at Calicut as the Head of the Fishery Biology Division. As a result of sheer hard work, in April 1957 he was appointed Chief Research Officer (later re-designated as Director) of the Institute at Mandapam Camp at the age of 46 years. He held the post for 13 years disregarding more remunerative jobs elsewhere and with single minded dedication to foster research on marine fish and fisheries till he retired in August 1970. After retirement also he continued his scientific works as Emeritus Scientist at the University College, Trivandrum for a short time.

In the fifties, when fishery science in the country was still in its infancy, Dr. Jones strived hard to build up the nascent CMFRI as a premier organization for marine fisheries research in India. He was responsible for initiation of several new and novel programmes by which the Institute witnessed rapid development of marine fisheries research. At CMFRI, right from the beginning, he initiated research on oceanic fisheries including the tunas and billfishes, to fill the lacunae in information and data on these fishes in the seas around India. His initiative and personal interest paved the way for investigation on the fishery potential of the Laccadive Islands, leading to landmark contributions in later years under his stewardship. The tuna, live-bait and other fisheries resources were surveyed and keys for scombroid fishes were prepared. These researches brought to light the exploitable potential of the fishery resources of the Laccadive Islands.

The book *Fishes of the Laccadive Archipelago* was published in 1980 under joint authorship with Mr. M. Kumaran. It is acknowledged as the most outstanding contribution on the ichthyofauna of the Indian region for over a century since the monumental work *Fishes of India* (Francis Day, 1878). The book described 603 species of fishes in place of hardly three dozens known previously. The ecology and fishery resources of the island territories have always fascinated him. Vast collections of fishes and other organisms from these areas were made by him and his colleagues and later subjected to detailed study.

His foresight to emphasise the investigations on biodiversity of marine fauna and flora was remarkable. He assigned very diverse topics such as sponges, nudibranchs, corals, copepods, crabs, stomatopods, polychaetes and echinoderms, besides fishes, prawns, molluscs, seaweeds etc. to research scholars. The wealth of information generated on these diverse marine organisms

under his guidance will remain useful for generations to come. Most of the students who specialized on these subjects and worked under his supervision later became experts on their relevant field of specialization, recognized in and outside the country. He guided a total of 13 researchers including a few staff members for Ph.D. degrees. Lack of continued thrust in biodiversity research after his tenure had a crippling effect at a time when biodiversity is being accorded all importance.

His close association with the officials of the Indo-Norwegian Project, especially the Director of the Project, Prof. G.M. Gerhardson, paved the way for regular fisheries oceanographic investigations in the country. Dr. Jones himself participated in several cruises onboard the two research vessels, R.V. *Kalaya* and R.V. *Varuna*. By using the material collected from these cruises and the collection of eggs, larvae and juveniles of scombroid fishes sent to him for examination by the Carlsberg Foundation's DANA Expedition of 1928, he could describe the young stages of scombroid fishes and deduce the distribution pattern of these fishes over a wide region in the Indian Ocean. Dr. Jones will be well remembered for his extensive and monumental contribution to the study of eggs, larvae and juveniles of several species of fish.

He evinced keen interest in the study of marine mammals, especially the dugong and the whales. Whenever he received any information on the occurrence of mammals and other unusual phenomena at sea, he lost no time to personally visit the site and undertake thorough investigation. Few of his colleagues whom he shrewdly picked up, were fortunate to work with such exciting creatures and generate valuable data and information unavailable till time.

Dr. Jones was the first to anticipate the possible extermination of the dugong in the seas around India and gave the clarion call for the protection of the animal in the Indo-Sri Lankan waters. He proposed to establish a Dugong Research and Conservation Fund and a sanctuary for the animal in the Gulf of Mannar and Palk Bay. Though these proposals have not fructified during his lifetime, the present Gulf of Mannar Biosphere Reserve could be considered as manifestation of his aspirations. By his sustained interest, he not only created international thrust in dugong conservation but was instrumental in keeping a pair of dugongs alive in captivity at Mandapam Camp for 11 years, creating a world record.

His interest in science was singular and remarkable. During his visits to Lakshadweep, his curiosity was drawn on the birds of Pitti Island from where he collected some birds and their eggs for study. A number of specimens were deposited in the CMFRI Museum at Mandapam Camp. When a tidal wave struck the southeast coast in 1964, he took the opportunity to organize a study of all marine animals stranded in pools and puddles along the coast. The 24-hour round the clock field study he organized in the sixties on the Manauli Island in the Gulf of Mannar to study the influence of tides on marine animals was exciting and will be ever remembered by all participants.

His interest on endangered marine animals like the turtles, dugong and whales was such that he remained on the spot till the contemplated work was finished, whether it is the sea-side or in the laboratory. It was quite an experience for

Never underestimate the power of a few committed individuals to change the world. Indeed, it's the only thing that ever has.

- Margaret Mead

youngsters to participate in the dissection of a dead dugong to study its anatomy and stretching its long intestine on the corridor of the laboratory to study the whole length segment by segment, for analyzing the contents, collection of parasites etc. Similar were the experiences of his scientific colleagues when stranded whales were studied on the spot and their parts transported to laboratory for further investigation.

He was a born naturalist, a keen nature observer and a down-to-earth field oriented scientist with an inquisitive eye to observe, understand and interpret nature's mechanisms and functions. When it came to work, there was no distinction of holiday or working day, day-time or night. Exhibiting an untiring capacity to work, he often spent long hours, up to midnight in the laboratory, on his own research. It is quite interesting and noteworthy to recall the 'Sunday morning field studies' at the Palk Bay near the Institute, he undertook along with several young colleagues and research scholars. Such trips also proved to be excellent training opportunity for young researchers to study marine fauna and flora. He used to silently wade through the shallow coastal waters and make astounding observations on animal associations which took many by surprise when the first few of a series were published. These papers are but a few of their kind in the country and are of special interest because of the intrinsic and strange associations between widely different animals.

Dr. Jones accorded highest priority to proper initiation and training to young researchers as he rightly believed that the future of the research institute would depend on their caliber. In the process, he would often goad his junior colleagues to attain new heights of achievement quoting old adages like: 'knowledge is power'; 'the great end of life is not knowledge but action'; 'there will be a gap between expectation and achievement'; 'your reach must be higher than your grasp' and so on. He interspersed with apt proverbs, native anecdotes and his characteristic remarks, sometimes pungent but often sprinkled with humour to bring home the point. By a series of skillfully directed questions, he would help his students and colleagues themselves to find the answer for most of their questions.



He was at times nagging, sarcastic and uncompromising with his younger colleagues but all that was in their own interest. The young researchers always benefited by his constant and unfailing guidance. He inculcated in them the scientific curiosity, keen observation, fetish for detail, sincerity, tenacity for hard work and above all a critical outlook. His interest to learn and teach youngsters in a practical way (with live, fresh and dead biological specimens) worked like a grinding mill for all aspiring scientists around him especially during the period 1958 to 1969 at Mandapam Camp. It was deliberate but veiled attempt on his part to bring about the best in them and develop their confidence and individuality. He advocated to his younger colleagues his motto 'set thy heart upon thy work and not on its reward; work not for reward and never cease to do thy work', (from *Bhagavat Gita*). True to his precepts he remained a karma yogi, never stepping into an ivory tower.

Dr. Jones was afflicted with polio in an advanced age of 53 years, rendering him wheel-chair ridden for the rest of his life. This incidence would have taken



its toll on a lesser mortal, but not Dr. Jones. If anything, it made him more tenacious, more determined. Never accepting defeat, the tempo of his activity increased tremendously, to the surprise of his contemporaries, like the Phoenix rising from its ashes. To those of his well wishers who wanted him to take 'complete rest' in view of his disability, he used to aver for their satisfaction that this would certainly be done in his grave! He challenged any unwary sympathizer of his handicap by jocularly remarking that he is 'more active above his hips' than most of his countrymen!

The most outstanding and permanent contribution of Dr. Jones to this Institute was his attempts and perseverance to shift the headquarters of CMFRI from Mandapam to another location like Madras or Tuticorin amidst stiff opposition from several quarters as he felt the original headquarters was unsuitable for a growing and premier national research Institute. However, the Estimates Committee of the Parliament and the ICAR ultimately took a positive decision in favour of Cochin, thus paving the way for the realization of his life's ambition at the fag end of his service. The indomitable courage and determination with which he successfully thwarted certain attempts to dismember the Institute can hardly find a parallel. This he did single-handedly while confined to the wheel chair, in utter disregard to his own chances of further continuing as its Director. He was an able administrator whose dedicated service, dynamic leadership and outstanding contributions will be always remembered.

Exhibiting extraordinary courage and grit he remained in office for about six years in the wheel chair and faced several adversities. He traveled far and wide in this condition. Since retirement from service, Dr. Jones has served on the Boards of several scientific, technical and social organizations, keeping himself aloof from all non-charitable and non-intellectual pursuits. As Chairman of the 'Nature Conservation and Aquatic Sciences Service' which he started in 1978, Dr. Jones offered his services relating to those matters to all those who approached him gratis. He took keen interest to inspect parts of the Silent Valley of Kerala during the period 1980-81, to see how best this extant, virgin, evergreen forest can be saved from undue destruction. Dr. M.G.K. Menon, former Scientific Advisor to the Govt. of India nominated Dr. Jones to examine the report prepared by Zoological Survey of India on the Silent Valley Project which was opposed by several environmentalists who opined large portions of the area would go underwater if the Project was implemented. He expressed his strong dissatisfaction of the report and made some scathing remarks on it. He had great passion for the study of world geography, history, mythology and folklore which added colour to his occasional loquacity.

Dr. Jones traveled widely both in India and many parts of the world both during his service and after retirement. On the very day he retired, he had to proceed to Hawaii to attend an international workshop on tuna larvae at the invitation of the U.S. Government. The other conferences he attended later include: FAO Conference on marine mammals at La Jolla, California (1974); FAO international meeting on mammals in the seas at Bergen, Norway (1976); Workshop/Seminar on dugong at Townsville, Queensland, Australia; Symposium on dugong held at Tokyo University, Japan (1979); Workshop/Seminar on whales of the Indian Ocean sanctuary held at Zeist, Netherlands (1981); Symposium on marine

mammals of the Indian Ocean under the auspices of the National Aquatic Resources Agency, Sri Lanka, Colombo, 1983 as its Convener; 'Whales Alive' Conference, Boston, U.S.A. 1983 at the invitation of the International Whaling Commission; and the international symposium on marine sciences in the Indian Ocean region held at Mombassa, Kenya (1995).

The greatest of all his professional contributions and an important milestone in the history of marine sciences in India was the founding of the Marine Biological Association of India (MBAI) in 1958 at Mandapam Camp. He successfully brought out its official organ, *Journal of the Marine Biological Association of India* (JMBAI) in 1959 itself, which helped knowledge pervade across the oceans and frontiers of several countries of the world. With the support of several colleagues, he tirelessly built up the MBAI over the years as an important professional body in marine sciences.

He conceived and organized several international symposia on subjects of interest such as the *Scombroid fishes* (1962), *Crustaceans* (1965), *Mollusca* (1967), *Corals and Coral Reefs* (1969) and *the Indian Ocean and Adjacent Seas* (1971), the last one held after his retirement. They were well attended and the proceedings of all the symposia were published and well received all over the world. All these created history in the country providing firm foundations for further research development of marine sciences. As the Director of the Institute, he organized the *Symposium on the Living Resources of the seas around India* in 1968, documenting all knowledge on marine living resources generated by the Institute.

The JMBAI and the Symposia greatly helped to disseminate research results and provide a platform for interaction among scientists, experts, planners and administrators for evolving strategies for future development. The journal and the proceedings of the symposia remain valuable and indispensable reference for marine scientist throughout the world. The symposium on corals and coral reefs was internationally accepted as the first and a forerunner of subsequent symposia on the subject elsewhere. The *Bibliography of the Indian Ocean* compiled and edited by Dr. Jones after his retirement, containing publications relating to the Indian Ocean prior to 1970, is the only one of its kind serving as a valuable reference. Even after his retirement, he kept sustained interest in the progress of the MBAI and attended the meetings despite personal inconvenience.

The MBAI also published a few monographs on different groups of marine organisms. Monographic work is difficult to accomplish without availability of extensive literature and publications, original descriptions, translation services (most of the original works are in other languages) and type specimens for comparison. However, he tried his best to furnish the Institute Library with several publications and purchased monographs on several groups like pogonophores, pycnogonids etc. which could be useful to research scholars. Though the idea of monographs was unique, some of these publications on certain fishes, *Ceratium*, *Dinophyceae* etc. did not click well in the market.

By a series of contributions on the mussel fishery in India and its potential and by holding the *Symposium on Mollusca*, he paved the way for the initiation of molluscan culture practices in the country. If he were alive today, he would have been happy to see the progress of mussel culture along the west coast of India which produce annually more than 15,000 tonnes, sustaining livelihoods of coastal people. This is yet another instance of forethought and vision of Dr. Jones.

Dr. Jones published 176 papers on fish and fisheries of India, besides aquatic mammals and other fauna. In recognition of his rich and varied contributions to science, Dr. Jones was elected as Fellow of the Indian Academy of Sciences, the Zoological Society of India, the National Geographic Society, etc.

**For a scientific association to survive and progress for 50 years, maintaining timely publication of its journal of high international standards is no small achievement. The credit duly goes to its visionary founder who instilled the right spirits and all those who tirelessly worked and contributed to the development of the Association to its present stature. It was the ardent wish of the founder that the Association should be self-sufficient, free from any strings and shackles, financial and otherwise, to function smoothly to achieve its cherished goals of serving science and the scientific community.**

It is gratifying to note that the MBAI lived up to his expectations in a great measure, self sustaining up to 1968. In subsequent years MBAI availed ICAR grants for publication of JMBAI, like any other scientific journal. All members of this internationally reputed Scientific Association should feel proud for the landmark contributions it made in the past and fervently work for its further growth and continued service to the cause of marine sciences.

On completion of 50 glorious years (1958-2008) MBAI is organizing the *International Symposium on Marine Ecosystems (MECOS 09)* from 9<sup>th</sup> to 12<sup>th</sup> February at Cochin, India. It will be a great landmark and tribute to the illustrious founder, Dr. Jones, whose forethought and zeal for the development of marine sciences in India placed this country prominently on the world map of marine sciences.

Dr. Jones will be well remembered for his humanitarian and philanthropic work, especially with polio affected children. He devoted much of his time and energy for the construction of the 'Home for the handicapped' at Trivandrum, the largest of its kind in Asia, and offered shelter to numerous polio stricken children from all over south India. The Bishop of Trivandrum gave him good support and he received a huge grant from German Mission and even sent his wife to Vienna to collect funds. The Emperor of Japan, Akihito, who was a marine biologist and a friend of Dr. Jones, donated a large number of computers for the Home and the Catholic Bishop a large number of wheel chairs. Several of his CMFRI colleagues also made donations.

Till his demise, he directed most of his intellectual faculties and energy for providing succor to these needy children. He used to personally guide and supervise all the activities of the Home from morning till evening on each day. The institution made tremendous strides in its development in various facets and in a short span of over a decade of its existence; it has become the foremost of its kind in India.

The Polio Home has an honorary director, a matron, a physiotherapist, a cook, office staff and a few supporting staff. It was designed with ramps, side supports, low sinks and low toilets etc for the convenience of the polio affected and physically challenged children. The Home also has a reading room, a physiotherapy hall and a guest room, which is made available free to the needy accepting only voluntary donation. Children are sent to schools, where some of them excelled. A souvenir was published on completion of a decade of service. On the passing away of Dr. Jones, the management of the Home was taken over by the Church of South India. His yeoman service to the disabled and physically challenged children, is most praiseworthy and will ever be remembered as an epithet of his humane and philanthropic nature. In recognition of his efforts, Dr. Jones was honored by the former President of India, Shri Zail Singh in New Delhi.

Dr. Jones was a multifaceted personality imbibing sterling qualities. His tenacity, sense of purpose, dynamism, dedication and tireless pursuit for research, indomitable courage, indefatigable energy and drive, prodigious memory, integrity, generosity and leadership made him indeed a remarkable man. He was extremely simple, ordinarily dressed with no pomp and euphoria. By sheer will power he nearly overcame his boyhood stammering. Baring his polio affliction, Dr. Jones enjoyed good health. His zeal to do something original continued to sustain his mental vigor and general health till his death. Blazing new trails and thriving to be second to none are part of his dominating personality. He carried out the programme of work undeterred and unmindful of either rewards or consequences. Dr. Jones stands out among his fellow fishery scientists by virtue of his invaluable contributions on fish and fisheries of the country and establishing the MBI.

A glorious era in the history of Indian marine sciences came to an end on 9.01.1997 when Dr. Jones breathed his last at Trivandrum. He strode like a colossus in different walks of life and left indelible footprints in the field of marine science. He will be remembered for generations to come and will remain a flaming inspiration for several generations of marine scientists in India and abroad.

When we no longer look at an organic being as a savage looks at a ship, as something wholly beyond his comprehension; when we regard every production of nature as one which has had a long history; when we contemplate every complex structure and instinct as the summing up of many contrivances, each useful to the possessor, in the same way as any great mechanical invention is summing up of the labour, the experience, the reason, and even the blunders of numerous workmen; when we thus view each organic being, how far more interesting – I speak from experience – does the study of natural history become!

- Charles Darwin,  
Origin of Species