

LUIZ VIEIRA CALDAS SALDANHA PASSION FOR THE SEA

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With 1 figure

RESUMO. Após doença prolongada, faleceu no dia 16 de Novembro de 1997 o Professor Doutor Luiz Vieira Caldas Saldanha, Professor Catedrático do Departamento de Zoologia e Antropologia da Faculdade de Ciências da Universidade de Lisboa e responsável pelo Laboratório Marítimo da Guia. O desaparecimento do Prof. Luiz Saldanha constituiu, para além de um choque para os seus mais directos colaboradores, colegas e alunos, uma perda irreparável para a comunidade científica e para o país. Referir em poucas linhas a vida e obra de Luiz Saldanha não é tarefa fácil. Foi o Prof. Luiz Saldanha que iniciou em Portugal, no Departamento de Zoologia e Antropologia da Faculdade de Ciências de Lisboa, o ensino universitário das disciplinas de Oceanografia Biológica e Ictiologia, bem como de outras disciplinas no âmbito da Biologia Marinha. Foi responsável pela formação científica de numerosos biólogos marinhos, que mais tarde viriam a integrar os corpos docentes e de investigação de inúmeras Universidades e Institutos de Investigação Portugueses. Como responsável pelo Laboratório Marítimo da Guia, desenvolveu trabalho pioneiro no domínio da Biologia Marinha, tendo publicado numerosos trabalhos fundamentais para o desenvolvimento desta ciência em Portugal. Liderou inúmeros projectos de investigação de âmbito nacional e internacional. Foi presidente do Instituto Nacional de Investigação das Pescas e mais tarde Presidente do IMAR/Instituto do Mar. No exercício destas funções contribuiu de um modo decisivo para o desenvolvimento e coordenação das Ciências e Tecnologias do Mar em Portugal.

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O seu desaparecimento surge no momento em que ultimava diversas obras de síntese relativas a temas marinhos. Em 1995 foi o impulsionador e principal responsável pela realização do Simpósio comemorativo do 1º Centenário da Oceanografia Portuguesa, cujas importantes contribuições foram já editadas em livro. Em 1999 foi condecorado postumamente pelo Presidente da República com as Insígnias de Grande-oficial da Ordem de Santiago da Espada. Esta publicação, realizada pelos seus colaboradores mais próximos, tem por finalidade perpetuar a memória de LUIZ SALDANHA.

ABSTRACT. After a long illness Luiz Vieira Caldas Saldanha died on November 16, 1997. He was a full professor in the Department of Zoology and Anthropology at the Faculty of Science in the University of Lisbon and was also responsible for the Guia Marine Laboratory. LUIZ SALDANHA's death was not only a shock for his closest collaborators, colleagues and students but also an immense loss for the scientific community and for Portugal. To describe the achievements of LUIZ SALDANHA in a few lines is not an easy task. As well as establishing university courses to teach Biological and Fisheries Oceanography he also initiated other Marine Biology courses elsewhere in Portugal. He was also responsible for the scientific training of many marine biologists who would later join the teaching and research staff of many Portuguese universities and research institutions. As scientific co-ordinator of the Guia Marine Laboratory his innovative pioneering work in the area of marine biology was outstanding. He published numerous works that were fundamental to the development of this scientific field in Portugal; sadly, he passed away before he could complete several overviews summarising his contributions to marine science. He led many national and international research projects. He was Chairman of the National Institute of Fisheries Research and later, Chairman of the Institute of Marine Research (IMAR) where he contributed decisively to the development and co-ordination of marine science and technology in Portugal. It was, in, 1995, LUIZ SALDANHA's suggestion to convene a symposium to commemorate the First Centenary of Portuguese Oceanography, he was largely responsible for the outstanding success of this event and the edited proceedings were published in Arquivos of the Bocage Museum. In 1999 he was posthumously decorated with the Insignia of "Grande-Oficial da Ordem de Santiago da Espada" by the President of the Republic. This publication is a tribute to LUIZ SALDANHA from some of his friends and adherents and aims to be a contribution not only to marine science but also perpetuate his memory.

LUIZ VIEIRA CALDAS SALDANHA was born in Lisbon on December 16, 1937 and died after a prolonged illness, in Cascais on November 16, 1997.

His primary and secondary school education took place in *Lisbon's French School, the Lycée Français Charles Lepierre*. Even at that time, his interest in nature led him to establish a small "museum" at home.

In 1961 he graduated in Biological Sciences from the Faculty of Sciences of Lisbon, having completed his final subjects while serving an extensive 7-year compulsory military service, which posed many constraints. A year after his graduation he was called up to serve in Africa, and was part of a combat unit for almost two and a half years in the Northern Angola Intervention Zone (1962-65). While in Africa he collected numerous samples that he later deposited in the *Museu Bocage (Natural History Museum)*. As a result, he only commenced his professional career at the age of 27, first as a Naturalist with the *Museu Bocage* (August, 1965) and then as a Researcher in the Anthropological and Zoological Laboratory and Museum (*Museu Bocage*) of the Faculty of Sciences of Lisbon, (FCL) (July, 1970 to December, 1974). His research activities as a Naturalist with the Museum led him to conduct various internships and research work for foreign institutions ¹.

In November 1974 he received a PhD from the Faculty of Sciences of the University of Lisbon (Speciality – Animal Ecology), earning the highest classification *Louvor e Distinção* for his thesis. He worked as Assistant Professor from January 1975 to October 1978, and was then appointed Associate Professor after passing the respective competitive examination (1978). He served as Full Professor with the Faculty of Sciences of Lisbon from December 1, 1979 until the time of his death.

Sadly, a fire in the Faculty of Sciences of Lisbon in March, 1978, completely destroyed his laboratory, equipment, zoological study materials, manuscripts of work in progress, notes, books and articles as well as part of his African zoological collection which he had put together in the Bocage Museum.

His desire to share his knowledge with both the academic community and the general public, led him to organise frequent discussion groups, where he discussed his scientific research works. These works included a large number of studies related to the sea ², in which he never forgot the human and ethnographic characteristics of the peoples with which he came into contact. An immediate result of these group discussions was that students from the Faculty of Sciences of the University of Lisbon (then located in the *Escola Politécnica in Lisbon*), requested that he create several disciplines in the area of Marine Biology. This was the origin of the first university courses in Portugal in the disciplines of Biological Oceanography and Ichthyology, as well as other marine biology disciplines. Later the Marine Biology and Biological Oceanography Section of the Department of Zoology and Anthropology of the Faculty of Sciences of the University of Lisbon was founded in 1975. In the same year, LUIZ SALDANHA re-opened and re-activated the Guia Maritime Laboratory (LMG) in Cascais, together with

several of his enthusiastic students (BAUCHOT & MARQUES, 1998). LUIZ SALDANHA was also one of the pioneers in Portugal of scientific scuba diving.

From 1975 onwards he was responsible for the scientific training of many marine biologists, who later served on the research and teaching staff of various Portuguese universities and research institutes. His academic activity focused principally on teaching academic disciplines in the area of Biological Oceanography and Marine Biology, supervising PhD theses and graduate students and also participating in various selection juries of universities and research institutions in Portugal and abroad.

His scientific interests focused on the domain of Marine Ecology and Biological Oceanography, specifically in regard to animal life and biological processes at great sea-depths, as well as coastal, tropical and polar ecosystems, which earned him the title of “Man of the Seven Seas” (SACADURA, 1994).

The wealth of his scientific and academic activities led journalists and commentators to refer to him as “the reformer of Portuguese oceanography” (CORREIA, 1997; FIRMINO, 1997).

His work as a naturalist led him to do several journeys to different desert areas, travelling in traditional caravans and also using various land vehicles³. Throughout his travels, LUIZ SALDANHA took photographs and always kept a small diary, richly illustrated with his sketches and watercolour paintings. His travel logs and watercolours, together with some of his photographs, have been displayed in various exhibitions organised in his honour (FIRMINO, 1999). His interest in the arts fuelled his hobby collecting lead soldiers, which he painted, created or modified, in order to assemble small dioramas that won prizes on several occasions in specialised exhibitions.



Fig. 1 - Luiz Saldanha (at left) in a scuba-diving expedition in the area of Marseille (France), in 1967.

During his scientific career he was responsible for and collaborated in various research projects, many of an applied character, with a strong emphasis on nature conservation ⁴.

His concern with nature conservation began at an early age, well before he was appointed Chairman of the Nature Protection Society. In 1965 he presented a project to set up an underwater reserve in the Arrábida coast to the Ministry of the Navy, together with colleagues and friends from the *Centro Português de Actividades Subaquáticas*. It was precisely in this area that the “Professor Luiz Saldanha” Marine Park was created 33 years later. During his scientific missions to the Azores, which were subject of a series of television documentaries – “O Mar e a Terra”, he identified various areas as zones that should be subject to special protection.

All these areas now form part of protected zones within the Azores Archipelago.

His body of scientific work (over 130 papers) ⁵ has frequently been cited in national and international bibliographies.

LUIZ SALDANHA was a member of various editorial committees of national and international scientific magazines. He took part in numerous international meetings, sometimes as a guest speaker and on other occasions as the keynote speaker for plenary sessions, together with international scientific and political-scientific meetings (within the framework of the ICES, *European Science Foundation*, *International Oceanographic Commission*, as Chairman of the National Institute of Fisheries Research - INIP). In 1987/1991, as part of the STD-CEE programme, he was member of an assessment panel of research projects in Asia (Malaysia, Thailand, Vietnam and China).

His enthusiasm for marine science led him to consider setting up an Institute that would bring together all researchers connected to Marine Sciences and Technologies in Portugal. He was unable to complete this dream, but did set up IMAR – the Institute of Marine Research ⁶ on October 3, 1991 with various researchers from different Institutions, and was its first Chairman. The Faculty of Sciences of the University of Lisbon is one of the associated and founding Institutions. At the time of his death, LUIZ SALDANHA was the Chairman of the General Assembly of IMAR, and also held many other posts in other bodies ⁷.

Several national and foreign researchers dedicated various species to him in recognition of his scientific knowledge and work ⁸. He has also been subject to several honorary tributes both during his life and posthumously ⁹.

A considerable part of LUIZ SALDANHA’s scientific library and memorabilia is currently deposited in the Funchal Marine Biology Station, and in November 29, 1999, the “Professor Luiz Saldanha Information and Documentation Centre” was inaugurated in the Funchal Marine Station.

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NOTES

¹ In the *Centre d'Océanologie de Marseille* (France), *Museum Océanographique de Monaco* (Monaco), *Museum Nationale d'Histoire Naturelle de Paris* (France), *Institute of Oceanographic Sciences* (U. K.), *Scripps Institution of Oceanography* (U. S.), *Chesapeake Biological Laboratory* (U. S.) and the *Smithsonian Institution - National Museum of Natural History* (U. S.).

² 1957 – N. R. P. “Faial” Bio-oceanographic mission – Portuguese coast; 1966 – Oceanographic campaign on board the “Jean Charcot” research ship in Madeira; 1967 – Marine ecology work in the island of Port-Cros (France) and French mediterranean coast (scuba-diving); 1965 until 1993 – Frequent scuba-diving scientific missions and exploration in the Portuguese mainland coast, the Azores and Madeira, several of long duration; 1969 – Submarine exploration trip to Mozambique and Angola; 1971 – Bio-Azores Oceanographic mission on board the “Jean Charcot” research ship; 1976 – Oceanographic mission on board the R/V “Marion Dufresne” in the Tropical and sub-Antarctic Indian Ocean (Kerguelen, Crozet, Marion and Prince Edward Islands); 1981 – Scientific Mission in the Kerguelen islands. Ecological study of the fish populations within and around the coast (scuba-diving); 1981 – Scientific mission in the coral reefs of the islands of Reunion and Mauritius; 1982 – Underwater observations off La Jolla - California; 1983 – Oceanographic mission on board the R/V “Discovery”. Abyssal Plain of the River Tagus; 1984 – Scientific Mission in the coastal waters of Senegal (underwater work); 1984 – “Archipelagos” Scientific Mission in the Selvagens and

Madeira organised by the Vasco da Gama Aquarium; 1985 – ARDOUKOBA expedition, in the Djibouti coral reefs; 1985 – Underwater observations in Vancouver island - Canada; 1985 – Oceanographic mission “Fluxatlante” on board the R/V “Suroit” organised between the Azores and Brest; 1986 – Oceanographic mission in the Indian Ocean: Exploration of the coral reefs of Reunion and Melinde (Kenya); Oceanographic mission on board the R/V “Marion-Dufresne” and work in the crater of St. Paul island (from the camp located on the island); 1986 – Scuba-diving in the Canary islands in order to observe *Heteroconger longissimus* populations; 1988-89 – Scientific mission on board the R/V “Noruega” in the waters of Guinea-Bissau, study of living resources; 1991 – Oceanographic mission on board the R/V “Polarstern” in the Arctic (Spitzberg); 1993 – Ichthyological mission in the Red Sea (Israel and Egypt); 1993 – Mission on board the R/V Atlantis with the “Alvin” submersible in the Azores. Discovery of hydrothermal vents; 1994 – Mission on board the R/V “Nadir”, with the “Nautile” submersible in the Azores. Discovery of hydrothermal vents; 1993 and 1994 – Underwater exploration in Mozambique, Kenya, Zanzibar and the island of Pemba (coral reefs); 1994 – Exploration of the underwater park of Garajau - Madeira.

³ 1963 – Moçamedes; 1982 – California and Arizona; 1983 – Southern Morocco; 1984 – Grande Erg Oriental (Algeria); 1987 – Erg Oriental (Tunisia); 1990 – Hoggar (Algeria); 1993 – Sinai; 1993 – Sonora (Arizona).

⁴ He supervised the works of the following projects: Environmental study of the Tagus Estuary (CNA, PNUD) 1977-1982; Site study for the implantation of a Nuclear power station in Ferrel (EDP) (1978-1979); Site study for the implantation of a power station in Sines (EDP) (1980); Forecast of the feather effect of heated water from the Sines power station on marine organisms (EDP) (1981); Site study (aquatic biology) and forecast of the impact of the Alqueva Dam; Situation study (aquatic biology) of the Aguieira Dam (1984); Site study for the placement of the Guia outfall sewer; Current state of Portuguese living marine resources and measures for their conservation (Ministry of the Environment, 1989); Study of coastal lagoon and estuary eco-systems (INIC) (1984-1987). EEC Projects (in which he co-ordinated the Portuguese collaborators): Natural variability and the prediction of change in marine benthic ecosystems (CEE - DG XII) (1987-1989); Oceanic communities and their influence on the fluxes of material through the deep water column and across the sediment-water interface (CEE - MAST I) (1990-1993); Evaluation of the STD II Programme (1987-1991). Research evaluation-Rep. 52 CEE (1991-1992); Case study in Agro-Industrial development in

Portugal. EEC Programme - Innovation in Agro-Biotechnology (1993).

⁵ See publications list in this Volume.

⁶ IMAR, Private non-profit institution whose main objectives are: i) promotion of pure and applied research initiatives within the framework of Maritime Sciences and Technologies, Aquatic Environments and related areas; ii) contribution for the transfer or scientific and cultural knowledge specifically through advanced training initiatives (post-graduate training); iii) promotion of exchange of knowledge and information with equivalent associations in Portugal and abroad, and iv) Provision of services.

⁷ Scientific co-ordination of the Guia Maritime Laboratory and Section of Marine Biology and Biological Oceanography in the Zoology and Anthropology Department of the Faculty of Sciences of the University of Lisbon; Member of the Scientific Council of the Albert I, Prince of Monaco Foundation (*Institut Océanographique de Paris and Musée Océanographique de Monaco*); Deputy Chairman of the *Oceanographic Commission of the International Union of the History and Philosophy of Science - Division of History of Science*; Portuguese Delegate in the *European Science Foundation*, in the Oceanographic Commission. Main duties performed: Chairman of the National Institute of Fisheries Research; Deputy Chairman of the *International Council for the Exploration of the Sea*, Member of its Consultative Committee on fishing, of the Publications Committee and the Delegates Committee (representative of Portugal); Counsellor (Natural Sciences) to the National Institute of Scientific Research - INIC; Deputy Chairman and then Secretary of the *European Ichthyologic Union*; Chairman of the Zoology and Anthropology Department, Faculty of Sciences of the University of Lisbon; Chairman of the Management Board of the Nature Protection League; Chairman of the General Meetings' Board of the Nature Protection League; Deputy Chairman of the Portuguese Society of Natural Sciences; Member of the Higher Council of Science and Technology; National Delegate in the EEC (DGXII) for the *Marine Science and Technology* programme (MAST); Member of merit of the Committee for study and utilisation of the sea-bed (CEALM). Founder and Chairman of the Scientific Council and of the Management Board of the Institute of the Sea (IMAR).

⁸ Species that have been dedicated to him: 1983 – *Charaxes lucretius saldanhai* (Bivar de Sousa, A., 1983. Contribution to knowledge of Lepidoptera insects in Angola (3rd note). Data on the occurrence of the *Charaxes* genus (Lep. Nymphalidae) in Angola (1st part). *Minutes of the 1st Iberian Congress of Entomology*: 114-118. Leon, 7-10/6/1983). 1999 – *Ophidion saldanhai* (Matallanas, J. & Brito, A. - Description of *Ophidion saldanhai* sp. Nov. from the Cape Verde Islands. *Journal of Fish Biology*, 55: 931-936). 1999 – *Ilyophis saldanhai* (Karmovskaya, E. S. & Parin, N. V., 1999. A new species of the Genus *Ilyophis* (Synaphobranchidae, Anguilliformes) from the Broken Spur Hydrothermal Vent Field (Mid-Atlantic Ridge). *Journal of Ichthyology*, 39 (5): 352-362). In this volume – *Puellina saldanhai* (Harmelin, J.-G. – 2001 – *Puellina saldanhai*

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⁹ *During his life*; Knight of the Order of the Academic Palms (France); Official of the Order of Grimaldi (Mónaco); Manley Bendall Award, medal of Albert I, Prince of Monaco; Golden Trident of the Accademia Internazionale de Scienze e Techniche Subacquee Ustica, Italy; Member of honour of the “Groupe d'études des milieux estuariens et littoraux (France)”; Presented to the French Academy of Sciences as a foreign researcher.

Posthumously; 20/03/1998 – the Luiz Saldanha award was created by the Institute of the Sea (IMAR); 05/06/1998 – Exhibition - “Watercolour paintings by Luiz Saldanha – a Travel Log of a Naturalist. Djibouti”. Ria Formosa Natural Park; 28/07/1998 – “Professor Luiz Saldanha” Marine Park in Arrábida; 28/07/1998 – Exhibition “Diary of a Naturalist on his Travels” Arrábida Natural Park; 1998 – “Luiz Saldanha” Portuguese-French Oceanographic Mission “Luiz Saldanha” on board the R/V “Nadir”.

Attribution of the name “Monte Luiz Saldanha” to an outcrop within the AMAR segment (Mid-Atlantic Ridge of the Azores) 16/10/1998 – “Sala Luiz Saldanha” in the Lisbon Oceanarium; 16/11/1999 – Insignia of the “Grande-Oficial da Ordem de Santiago da Espada”; 16/11/1999 – Exhibition - “Luiz Saldanha – Naturalist of the XXth century”, Lisbon Geographical Society; 16/11/1999 – Edition of the commemorative medal of the Day of the Sea with the effigy of Professor Luiz Saldanha; 16/11/1999 – “Day of the Sea – Homage to Professor Luiz Saldanha” edition of a Postcard and commemorative stamp by the Portuguese Postal Service (CTT); 28/11/1999 – “Professor Luiz Saldanha” Information and Documentation Centre in the Funchal Marine Biology Station; 03/04/2000 – Exhibition - “Photographs by Luiz Saldanha – A symbolic homage by FCUL” the Faculty of Sciences of the University of Lisbon. A street in Cascais was named after Prof. Luiz Saldanha (2001).