



Scots who made their mark on.....

Medicine 2 : Sir Ronald Ross



Sir Ronald Ross (1857—1932)



Sweden 1962

Indian born Scottish physician Ronald Ross shown on the right of this Nobel Prize issue contracted malaria in 1897 at Ooty in India and was thereafter inspired to study why he had been infected, eventually discovering the malarial parasite within one type of mosquito. He

demonstrated that the disease could be transmitted from infected birds to healthy ones via a mosquito bite and amongst many other honours was awarded the Nobel Prize for Physiology or Medicine in 1902 for this ground breaking work. He went on to survey the spread of malaria in Africa and southern Europe, developing mathematical models for the study of its epidemiology.

The text of the Presentation Pack for the 2010 GB Medical Breakthrough issue tells us that Ross's "work on the transmission of malaria....provided the foundation for tropical medicine in the 20th century.....Malaria was endemic in low-lying parts of Europe but by the 19th century it was widely seen as a characteristically tropical disease.

"Several researchers working in the European colonies in Africa and Asia had identified a microscopic parasite as the organism responsible, but its life cycle was notoriously complex.....Ross spent several years dissecting the relationship between (the parasite) and the Anopheles mosquito (*shown here*). On 20th August 1897—



"Mosquito Day" in Ross's diary—he completed his study.....His pioneering multidisciplinary approach...has stimulated a series of attempts to control and eradicate malaria in many parts of the world."

Ronald Ross was the eldest son of British Army General Sir Campbell Ross and aged eight was dispatched to the south of England for his education. He moved to a boarding school in Hampshire when he was 12. Having trained in medicine at St Bart's in London, on qualifying Ross immediately joined the Indian Medical Service and in the first two decades of his service concentrated on the study of malaria from his base in Kolkata (Calcutta) in West Bengal and then in Bengaluru (Bangalore). In this second posting Ross realised that



Ross in his 40's



Ross in his lab towards the end of his life and right a 2010 GB stamp in the Medical Breakthrough issue, captioned "Malaria parasite transmitted by mosquitoes, proved by Sir Ronald Ross 1897"



mosquito breeding could be controlled by restricting their access to water.

When he himself almost inevitably contracted malaria, he was transferred to Secunderabad in Andhra Pradesh where working in the medical school of Osmania University he discovered the malaria parasite in the Anopheles mosquito. He was able to show that malaria passed from infected specimen birds to healthy ones via a mosquito bite.

In the year of his Nobel Laureateship Ross became Professor at the Liverpool School of Tropical Medicine, was made F.R.S., and Companion of the Bath by King Edward VII. Nine years later he was knighted being elevated K.C.B.

Ross was now *the* international expert on malaria and he travelled widely to promulgate his analytical approaches, giving advice in West Africa, in the Eastern Mediterranean and in states around the Indian Ocean. Arguably his greatest achievement was the development of mathematical models for the study of the disease's patterns of development. His papers for the Royal Society, of which he was Vice-President for three years just before the outbreak of The Great War, demonstrated a profound mathematical interest which went beyond the bounds of studying a single disease and brought him great further academic acclaim.

Ross also achieved some recognition as a poet and a humourist with a mischievous streak.