Alphonse Laveran (1845-1922)

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Alphonse Charles Laveran, took his medical degree in Paris in 1867, and eventually took up the role of military surgeon. Between 1878 and 1883 he was stationed in Algeria, where he had ample opportunity to study malaria, which was thought to be caused by bad air (“mal aria’ in Italian). After Pasteur’s discovery, germ theory of disease and bacterial origin of malaria became increasingly attractive. In Italy, Corrado Tommasi, Crudell isolated short rods from damp soil in malarious regions and named them ‘Bacillus malariae’. In an 1879 editorial, BMJ even declared that the malaria problem had been solved, without any conclusive evidence.

Laveran was calm, reserved, unemotional, but exceptionally astute. At the Military Hospital Constantine-Algeria, sweating under the burning sun for two years, he used observations from the many autopsies of malaria victims, and concluded that black granular microscopic bodies were specific to malaria, and they originated in the blood. He confined his studies to fresh blood samples of malaria patients, and patiently performed many examinations without the benefit of staining techniques. He noticed spherical glassy “hyaline” bodies free or adherent to RBCs: some, contained dark granules of pigment exhibiting amoeboid movements.

The revelation came on 6th November 1880, while examining the blood of a febrile patient. He saw “…on the edges of pigmented spherical body, filiform movements which move with great vivacity, displacing the neighbouring RBCs”. By chance, he had seen exflagellation of a male gametocyte. Laveran immediately knew that he had found a living organism that caused malaria and named the parasite Ocillaria malariae. After identifying it in the blood of many more patients, Laveran sent two notes to Academy of Medicine, in November and December 1880 on this “New Parasite found in the blood of several patients suffering from Marsh Fever”.

Laveran was appointed Professor of Military Diseases at the School of Military Medicine of Val-de-Grace in Paris in 1887. His publications were generally met with skepticisms, especially among the Italians, who were still in favour of bacterial cause. All controversies were resolved, when Ehrlich developed methylene blue stain (1899), and other species of malarial parasite were identified.

Laveran was awarded Nobel Prize in 1907 in recognition of his discovery of malarial parasite and his overall work on protozoan causes of diseases.