

Book Review

The Impenetrable Veil – from Yellow Fever to Ebola to SARS.
Charles H. Calisher, 2013.

The author for over 50 years worked in laboratory and field research focused on isolation and identification of viruses from arthropods, animals, and humans. He visited laboratories worldwide and talked to and collaborated with scientists engaged not only in similar work, but also talked to pioneers in vaccine development such as for yellow fever. Yet, this book is not about Calisher, but about so many others who have worked or are still working in this huge area of the study of so many viruses. As a world expert on the taxonomy of this group of viruses, he makes the most sense of them, based on the work of so many others and his own, whether the viruses are distinct from one another, or related in some manner, and whether they are associated with disease in animals and/or humans, at least as of now. His descriptions of the personal history and accomplishments of so many scientists fit his chosen title: “*Lifting the Impenetrable Veil...*” This is a remarkable story based on the depth of experience of the author over many decades and described in a manner that one could not get by reading the publications of the scientists so described. There is an extensive list of published material for further reading, however the book is not a source of the specific publications by the investigators that the author has discussed, nor does it need to be. It is a story of who they were and what they accomplished, going back in time to scientists associated with the original discovery of many viruses to set the scene for the last 50 years.

The Preface, written by the author about himself, describes the often purposeful and sometimes “blessed with fortune” pathway that a dedicated scientist must follow on his own initiative in his quest to contribute his now proven potential. He now puts the enormous field of arbovirology (arthropod vectors of viruses) and other viruses into a perspective that can be grasped by the reader. He begins with the people who study the causative agents of infectious diseases and the emerging field of arbovirology and makes a smooth transition to his unique rendition of the history of yellow fever. He went on to write about the people who described other diseases and other viruses, including those not vector transmitted. His table of ‘Findings key to arbovirologic research, 1930 to 1948,’ which includes non-arthropod transmitted viruses, gives some insight into the author’s approach for this book.

Calisher writes about the people who developed laboratory procedures to cultivate, assay, and study these viruses in the laboratory. He points out that the book has a bias toward North American studies, but his experience with investigators that he visited globally, and also with those from Europe, Africa, and Asia who sent him samples for identification reduces the significance of that statement. He describes the key entomologists among the arbovirologists, and their major contributions that included the discovery of the maintenance

of these viruses in insect (vector) populations even during quiescent times (e.g., overwintering). He established trust and friendship with so many people on a global scale that immediate sharing and discussion of data became the hallmark of people that worked in this field of study.

He describes the entrance of molecular biologists into this field and how they made substantial contributions to describing and understanding the relationships of the many viruses and how they fit into patterns that could be visualized and understood. Molecular markers of virulence of some of these viruses were a major contribution. The author is a world expert on the taxonomic aspects of these viruses, and his descriptions are enlightening and educational. He succinctly presented this type of information in two of his tables that list recognized arenaviruses and hantaviruses. This book is very important for those who want to become familiar with arbovirology, and from his humorous encounters with some of the scientists certain to be a pleasurable read for those working in or retired from arbovirus research. Stated more eloquently and factual in one of the comments published in the lead page of the book: “This is more than an authoritative history of the field of arbovirology. Calisher has written an ode to science that draws the reader into a world of serendipity, colorful characters, and reversals of fortune, triumphs, and tragedies...” (W. Ian Lipkin).

Finally, there is also a sad and somewhat frightening component of this book as first he described the early philanthropic foundations (and some federal laboratories) that supported and provided continued funding for laboratory and field research. This support was critical for scientists to continue their studies and their travel to track down the source of some of these viral scourges, as well as continue to isolate the many viruses that were biding their time in hidden ecological niches. This type of support has seriously declined, and has made the world of the arbovirologist and those like them even more difficult by the emergence of the non-scientist laboratory manager. He quotes statements by scientists subjected to this nightmare that bring the problem into perspective. Those that make funding decisions must somehow be encouraged to read this book. In the Forward by T. P. Monath and F. A. Murphy there is a very sober comment: “given our current approach to the science and its funding, are we about to lose something important for the future of the discipline of arbovirology?”

Calisher describes what must be done to prepare for the future, and by writing about many of the scientists and their accomplishments, Calisher has indeed ‘lifted the impenetrable veil’ over arbovirus research and its global significance.

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