

The Index-Catalogue of Medical and Veterinary Zoology

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THE *Index-Catalogue of Medical and Veterinary Zoology* is an index to the world's literature on parasites and parasitisms of man, of domestic animals, and of wild animals whose parasites may be transmitted to man and domestic animals. Included, also, are references to parasites of fur-bearing animals, wild life, and to free-living and plant parasitic nematodes or roundworms, which are rapidly becoming recognized as important in reducing yields and rendering otherwise valuable land virtually useless for raising certain types of food and forage crops.

Before beginning my description of the *Index-Catalogue* I should like to give a brief history of the Zoological Division of the Bureau of Animal Industry, and to tell you of a few of its achievements so that you may understand why we, a very small governmental unit, have built up this large, expensive working tool.

The Bureau of Animal Industry, of which we are a division, was established by an act of Congress, May 29, 1884, which reads, "An act for the establishment of a Bureau of Animal Industry to prevent the exportation of diseased cattle and to provide means for the suppression and extirpation of pleuro-pneumonia and other contagious diseases among domestic animals." The Brookings Institution Monograph No. 41 states, "The Bureau of Animal Industry of the Department of Agriculture is concerned with the promotion of the livestock, meat, and poultry interests of the United States and with the protection of the public health against dangers from animal sources." A souvenir volume on the Bureau published in 1901 by D. E. Salmon outlines the duties thus: 1) control of contagious diseases of animals in the United States; 2) prevention of importation of contagion; 3) prevention of exportation of contagion; 4) meat inspection (one important aspect of which is trichinae inspection); 5) investigation of diseases and remedies; 6) co-operation to prevent disease; 7) aiding export; and 8) collection of information.

The Zoological Division is concerned with the cause and control of parasitic diseases of animals. In the enforcement of quarantine laws it is the final authority on the identity of helminths, protozoa, and arthropods. The Division was first recognized as a distinct entity in 1891, when Dr. Charles Wardell

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Stiles was appointed an assistant in the Division of Animal Pathology and placed in charge of a branch known as the Zoological Laboratory. Dr. Stiles continued in charge until 1903, when he accepted a position as Chief of the Zoological Division of the Hygienic Laboratory of the U. S. Public Health Service. One of his most noteworthy contributions during his association with our Division was the discovery of the American hookworm of man, *Necator americanus*, and his establishment of the fact that it is one of the most important public health problems. Dr. Stiles was succeeded by Dr. Brayton H. Ransom under whose direction investigations were carried out on gid in sheep, tapeworms and eye nematodes of poultry and other birds, stomach worms, hookworms, and other nematodes of ruminants, scabies of cattle, sheep, and swine, lice of hogs and cattle, cattle ticks, ear ticks, sheep ticks, sheep tapeworms, trichinosis, and others. Dr. Ransom died in 1925, and was succeeded by Dr. Maurice C. Hall who followed Dr. Stiles in 1936 to the National Institutes of Health as chief of its Zoological Division. It may be of interest to note that it was during his service in this laboratory that Dr. Hall demonstrated that carbon tetrachloride was efficacious and safe for use in man against the hookworm. Later, because of the toxicity of carbon tetrachloride to certain animals, he experimented with tetrachlorethylene, establishing it as the drug of choice for the removal of gastro-intestinal parasites of domestic animals. The Zoological Division is continuing its investigations on parasites of livestock, poultry, and fur-bearing animals on a larger scale than heretofore, in keeping with present-day needs, under the able leadership of Dr. Benjamin Schwartz.

The Zoological Division has two valuable tools with which to work in the identification of animal parasites: the *Index-Catalogue* and the U. S. National Museum Collection of Animal Parasites which is housed in our buildings.

The title of our *Index* is disturbing to some, as is the title of our Division. By medical and veterinary zoology we mean all animal life which lives on or in other animal life or which inflicts injury on other animals, or in other terms, all animals which associate with man and other animals in an injurious way. It is only a part of the field of veterinary medicine. Bacteria and viruses are the concern of others.

The *Index* was started around 1892 by the late Albert Hassall, formerly a student of the late T. Spencer Cobbold, at that time England's most distinguished parasitologist. In his capacity as assistant to Stiles, Hassall conceived the idea that much time could be saved by keeping on file reference cards to literature which his chief required him to secure in connection with research being carried on in the Division. This practice gradually expanded in the interest of time saving and economy to the indexing of all literature in the field of parasitology then extant, as well as of that in all current literature. With this modest origin the *Index* developed to the stage of an important project and now constitutes one of the work projects of the Division.

At this point I wish to emphasize the fact that the *Index* was designed to serve the needs of a particular branch of science and that its designers were scientists who worked in the field and understood its needs.

We derive our material from many sources. Certain periodicals are received on regular circulation from the Library of the Department of Agriculture. We check standard indices, such as the *Bibliography of Agriculture*, *Current List of Medical Literature*, *Zoological Record*, and *Index Veterinarius* and search abstract journals, such as *Biological Abstracts*, *Chemical Abstracts*, *Tropical Diseases Bulletin*, *Veterinary Bulletin*, and the *Review of Applied Entomology*. We check the bibliographies of articles indexed. Many members of our staff and friends working in the field receive reprints and journals which they gladly share with us. We index reports of experiment stations, departments of agriculture, foundations, councils, and reports of expeditions. Having assembled a number of unverified references from these sources, we either go to a library which is likely to have the original or request it through interlibrary loan. We have received material from 142 libraries, both public and private, domestic and foreign. Thirty two languages are represented.

The *Index* is divided into four sections, namely, an Author Catalogue, a Subject Catalogue, a Host Catalogue, and a Treatment Catalogue.

The Author Catalogue, the second edition of which has just been published, serves as a bibliographical key to the other catalogs. It is arranged alphabetically by author, with each author's papers arranged chronologically and assigned a letter. The title of the article and full bibliographical information are given, together with a symbol referring to the library in which the original is located.

The second section of the *Index* is the Parasite or Subject Catalogue. Here the arrangement is by genera and species *as given by the author*. The information recorded here includes the name of the species discussed, the pages of the publication on which the name appears, illustrations of the species, author of the article, host on or in which the species is found, and the geographical locality in which the host occurred. It has been estimated that references to more than 100,000 species are to be found in this section. The Subject Catalogue has been published in three parts as Bulletins of the Hygienic Laboratory: the Trematoda, issued in 1908, the Cestoda, issued in 1912, and the Nematoda, issued in 1920, under the authorship of Stiles and Hassall. It represents material from the combined catalogs of the Zoological Division of the Bureau of Animal Industry and the Zoological Division of the National Institutes of Health.

Each parasite slip placed in our *Index* must be treated individually and has its own identifying characteristics. You will find many abbreviations and phrases on these slips, such as *n. sp.* for "new species," *n. comb.* for "new combination," *nom. nov.* for "new name," *tod* for "type by original designation," *tsd* signifying "type by subsequent designation," *lapsus calami*, *nomen nudum*,

etc. An article may require from one to several thousand slips for adequate indexing and the time required to do this work may vary from fifteen minutes to several months.

The third section of the *Index* is represented by the Host Catalogue. It is arranged according to the genera and species of host and gives the name of the parasite, the name of the host, the location of the parasite within or without the host, the locality in which the host occurred, and finally the author of the article in which this information is found, together with the date of publication and page on which the information appears. Parts of this Catalogue have been issued from the Hygienic Laboratory of the U. S. Public Health Service as *Key-Catalogues*, the first four under the authorship of Stiles and Hassall and the remainder under Stiles and various authors.

The fourth section deals with treatments which have been reported as of value in combating or controlling parasitic diseases. This section differs from the others in that, in addition to a cross index to the drug, parasite, hosts, and the diseases produced by the parasites in question, abstracts of the articles listed are included. This section is maintained as a work project of the Division known as Treatment for Internal Diseases.

In addition to these four sections we maintain a Checklist of Specific and Subspecific Names which is a valuable tool for recording the original description of a species and the various changes which have been made by authors moving it about from one genus to another.

Those parts of the *Index* which have already been published are generally available in most libraries and laboratories in all countries, but the material now in manuscript form must be used in the Index-Catalogue room of the Zoological Division at Beltsville, Maryland. The second edition of the Author section has just been completed and may be obtained by requesting it from the Bureau of Animal Industry, U. S. Department of Agriculture, Washington 25, D. C.