

Borneo Biomedical Bibliography

Third edition, 2009

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Preface and acknowledgments

This bibliography contains over 1,000 references on health issues in Borneo, organized under 18 topical headings. These reports relate to the past and present health of all the large ethnic groups on the island but few of the smaller ones, since they have received less attention. The bibliography contains textual materials, including on-line links, and a few audio/visual materials. I have annotated many of the entries in order to identify the geographical areas studied, the groups investigated, and other data. J. R. R. Tolkien once wrote that his fictional hobbits liked to have books filled with things they already knew. Some users of this bibliography may also be pleased to find that it is full of things they already know, but others may find new or forgotten things. There are also lacunae in the bibliography, especially for Kalimantan; perhaps relatively few studies exist about its people's health. And the further back in time we gaze, the fewer reports we find on the health of all of Borneo's people.

Wayfarers from all over Southeast Asia and from India, China, Europe, and elsewhere visited Borneo long before European empires became rooted there. These travelers had little interest in the local health situation. When imperial Europeans arrived, they became interested in health matters primarily for their own survival in the tropics. It was not until the nineteenth century that Europeans living in Borneo started to pay some attention to the health of the inhabitants. By the twentieth century, if a rubber-plantation manager in British North Borneo thought malaria was decimating his workforce, he would likely stock up on quinine. All during this time, smallpox epidemics took their periodic toll because vaccination campaigns were slow in being recognized by rulers as having both economic and social benefits.

Modern health services did not arrive in Borneo until well into the twentieth century, and even then they did not penetrate much into the rugged interior. Today, however, such services are widely, if not universally, available and life spans are increasing. Despite these advantages, new menaces such as HIV/AIDS, drug-resistant infections, and environmental destruction and pollution are among the challenges that will continue to plague the island's residents in the future.

As is often the case, this project has received help from many people, not all of whom can be mentioned here. Foremost among them are Alexander Adelaar, George Appell, Ann Appleton, Hew Cheng Sim, Andrew Kiyu, Han Knapen, Jayl Langub, Elizabeth Etta ak Nyadang, and Bernard Sellato, all of whom in different ways contributed to the evolution of the bibliography.

Glossary/abbreviations

&—and

#—number

% —percent

AIDS—acquired immune deficiency syndrome

Am. J. Epidem.—American Journal of Epidemiology

Am. J. Hum. Gen.—American Journal of Human Genetics

Am. J. Phy. Anthro.—American Journal of Physical Anthropology

Am. J. Trop. Med. Hyg.—American Journal of Tropical Medicine and Hygiene

A-P J. Clin. Nutr.—Asia-Pacific Journal of Clinical Nutrition

A-P J. Pub. Hlth.—Asia-Pacific Journal of Public Health

BRB—Borneo Research Bulletin

Bull.—Bulletin

Bull. WHO—Bulletin of the World Health Organization

bt.—binte (daughter of)

BTTLV—Bijdragen tot de Taal-, Land- en Volkerkunde

Dept.—Department

DNA—Deoxyribose nucleic acid

DPT —diphtheria, pertussis, typhoid

E.—East

EBV—Epstein-Barr virus

ed.—editor; edition

eds.—editors

e. g.—for example

et al.—and others; used in cases of more than three authors

etc.—et cetera; and so on

G6PD—the enzyme glucose-6-phosphate dehydrogenase

goitrogenic—of a substance that causes goiter

HIV—human immunodeficiency virus

HLA—human leucocyte antigen

IEAS—Institute of East Asian Studies

IMR—Institute for Medical Research, Kuala Lumpur

Internat.—International

IQ—intelligence quotient

J.—Journal

JE—Japanese encephalitis

J. Roy. Soc. Med.—Journal of the Royal Society of Medicine

J. Trop. Med. Hyg.—Journal of Tropical Medicine and Hygiene

JMBRAS—Journal of the Malaysian Branch, Royal Asiatic Society

K.A.P.—knowledge, attitude, practice

KITLV—Koninklijk Instituut vor Taal-, Land en Volkenkunde (Royal Netherlands Institute of Southeast Asian and Caribbean Studies)

Kg.—kampung (village)

L.—Long

latah—a startle state often followed by echolalia

manang—an Iban traditional healer

M. A.—Master of Arts
 M. S.—Master of Science
 Med.—Medicine, medical
 MJM—Medical Journal of Malaysia, or Malaya
 mm.—millimeter
 mtDNA—mitochondrial DNA
 mukim—a parish or territorial division
 no.—number
 NPC—nasopharyngeal cancer
 Orang Asli—the indigenous peoples of W. Malaysia
 p.—page
 PCR—polymerase chain reaction
 Ph. D.—Doctor of Philosophy
 Psych.—psychology, psychological
 R.—rumah (house or longhouse)
 RM—ringget Malaysia (currency)
 S.—South
 SEAJTMPH—Southeast Asian Journal of Tropical Medicine and Public Health
 Sci.—Science
 SMJ—Sarawak Museum Journal
 SNP—single nucleotide polymorphism
 Soc.—Social, society
 Soc. Sci. Med.—Social Science and Medicine
 STI—sexually transmitted infections
 Suppl.—Supplement
 TB—tuberculosis
 TRSTMH—Transactions of the Royal Society of Tropical Medicine and Hygiene
 UNESCO—United Nations Educational, Scientific, and Cultural Organization
 UNICEF—United Nations Children’s Fund
 UNIMAS—University of Malaysia, Sarawak
 Univ.—University
 VHP—village health promoter
 Vol.—volume
 W.—West
 Wakil Kesihatan Kampung—volunteer village health promoter

Introduction to the third edition: scope, coverage, limitations: an overview

This edition of the “BBB” has new features that can help readers access a variety of subject matter in the topical bibliography through its expanded list of subheadings or by utilizing the topical index, the place-name index, or the ethnic-group index. The author index provides access to reports by individuals or institutions, even if they occur in different sections of the bibliography.

The annotations in the bibliographic entries reflect my own interests and limitations, at least in part. A problem with some cited reports is that health information is sequestered in texts that are primarily on a non-health topic. These reports may be of only minor use to most readers. Another problem is that some reports, such as theses and government documents, are readily available only at the one institution where they reside.

On a more positive note, one advantage of the twenty-first century is that many of the bibliographic entries are now available on-line. While some are available only through library databases, a number are freely accessible on the internet. Readers are encouraged to navigate the net to obtain downloadable copies. This edition of the bibliography will be made available on-line through IEAS and through ScholarsArchive@OSU, accessible through Google. The second edition of the bibliography has long been available on-line at: <http://www.ieas.unimas.my/images/stories/biomedical.pdf>

General health information by country or state is available at the following sites.

For Brunei: <http://www.moh.gov.bn/>

For Indonesia: <http://www.depkes.go.id/>

For Sabah: <http://jknsabah.moh.gov.my/>

For Sarawak: <http://jknsarawak.moh.gov.my/>

A well-known database is Medline, but Global Health is another database that is useful. However, Global Health is beset with typographical errors; in one case, part of an article title was changed, presumably by a British typist hitting the wrong key, from haemoglobin E to haemoglobin pounds-sterling.

One further point needs to be made. To encourage researchers in the social sciences and humanities to incorporate health issues into their studies, I have included information on the ethnic groups and places studied in the reports listed in the bibliography. Such information may also encourage more biomedical writers to note ethnic designations and locations in their reports. This is important because, for example, medical personnel from West Malaysia working in Borneo will see peoples and cultures different from those of their home area; the same situation holds for medical workers from non-Borneo parts of Indonesia coming to Kalimantan, let alone the visitors to Borneo from farther afield. Ethnic and site information also can help in planning “follow-up” studies; indeed, longitudinal studies on particular places and peoples often provide information not obtainable in other ways.

In all, fuller information on people, their environments and cultures, and all other basic elements of existence and experience can only help enrich our understanding of human life, now and into the future. Much of human life has changed radically over the past few centuries in Borneo and elsewhere and has been lost to human memory, or is now vanishing during our lifetimes. We as a species must adapt nimbly to many changes, both biologically and culturally, to avoid catastrophes such as pandemics, food shortages, and other global problems. The goal of biomedical research, then, is to foresee a myriad of problems and inform our fellow human beings as to possible ways to solve them. This challenge has yet to be met in any systematic way.

Introduction to the edition of 2000

This bibliography was originally published by A. Baer and G. N. Appell in the *Borneo Research Bulletin* 27: 77-89, 1996. It had 173 references. I have now updated the bibliography for the Institute of East Asian Studies, UNIMAS, Sarawak. It contains more than 330 references.

The bibliography was originally assembled with two goals in mind. One was to delineate what is and is not known about human biology, particularly health, in Borneo. The other was to encourage the compilation by research workers of base-line data on neglected biomedical topics. Sustained biomedical research can contribute both to an illumination of practical problems and to an historical/evolutionary perspective on health and culture.

The reports referenced here all deal with Borneo. Recent papers published in peer-reviewed journals and edited books accessible through computer databases or libraries were favored for inclusion. Dutch language materials were omitted, but many are cited in Rousseau (1988) or in Knapen (1997, 1998). An earlier medical-anthropology review provides background information, specifically on groups in the Malaysian state of Sabah (Appell, 1968). Rousseau's (1988) bibliography on Central Borneo contains pertinent references on health, demography, botany, and other topics. Another bibliography (Cotter, 1965) contains little biomedical information.

The selected reports provide an overview of the health status of ethnic Bornean groups, based largely on studies in East Malaysia. Yet a coherent picture is elusive, since the studies were done at different times and places with disparate aims. No single report provides a thorough health survey of any particular group, one in which all ages were surveyed, demographic features of the group were ascertained, and past and present medical conditions were noted. Moreover, even for so dire a disease as malaria, little longitudinal information is available, despite the fact that 70% of reported malarial cases in Malaysia in 1990 were from Sabah (Lim, 1992). Rather, an early malarial survey of Sarawak and Brunei (de Zulueta, 1956) provides reliable information only on age 2-9 yrs. at single time points in various areas, despite known seasonal and annual variation in malarial parasitemia. Recent malarial reports have not built systematically on this 1956 survey base.

The cited reports do highlight some long-standing health problems in Borneo. These include childhood and adult malnutrition, filariasis, intestinal parasites, malaria, and some microbial infections. On a more positive note, Schwenk (1975) reported that the Iban once had "one of the highest" incidences in the world of tetanus neonatorum, or newborn lockjaw; this resulted from cutting the umbilical cord with an unsterilized bamboo splinter and controlling bleeding of the cord with kitchen-fire ashes, but the administration of anti-tetanus toxoid (ATT) now to antenatal mothers has reduced this form of tetanus to a very low level, at least in Sarawak (A. Kiyu, personal communication).

Conditions on which little has been published include complications associated with pregnancy or childbirth (that is, female reproductive health), geriatrics, childhood communicable diseases, dental problems, venereal diseases, and genetic disorders, to name a few. With notable exceptions, health-oriented demography has also been neglected, especially the many parameters of fertility and viability. Thus it is unclear which medical conditions are major causes of age-specific morbidity and mortality among Borneo ethnic groups now, or which were the major causes in the past.

The bibliography is divided into thirteen sections, the first covering general and miscellaneous topics. Later sections cover cancer, demography, dengue, filariasis, genetics,

goiter, leprosy, malaria, mental health, nutrition, tuberculosis, and typhus. These section headings are meant to provide entryways for both biologists and social scientists to the Borneo biomedical literature. For many of the references cited, the name(s) of the ethnic group(s) studied and the location of the study site are noted.

Borneo ethnic groups have received vastly different amounts of attention in biological or biomedical journals. The only biomedical reports on the Kenyah are on nutrition and malaria, while at least eight biomedical topics have been studied on the Iban.