

Mammalogy and Primatology

A Selective Bibliography of Mammal and Primate Resources



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Scope

The following is an APA-formatted, selective, and systematic bibliography of resources in mammalogy (the study of mammals), with a focus on primatology (the study of primates). Information sources involving all living mammals, particularly non-human primates, are included. The materials listed can only be accessed through the collection of Walter Clinton Jackson Library or via the internet. In other words, both print and electronic resources have been included. Current information was given preference, but older resources of good quality were also considered relevant to the list. The criteria for inclusion were based on a few factors. The first objective was to find the most user-friendly sources that contained the least amount of jargon. Sources that provided aggregated data in a single printed work were also given preference. When the above specifications could not be met, the easiest to use resources for researchers and scientists were chosen. Thus, the following bibliography is meant for all information seekers, including researchers, conservationists, students, and laymen. Conservationists are a particular audience of relevance, especially regarding primatology, due to the endangerment of many mammal species. It should be noted that one of the most relevant abstracting sources for primates was not included until the end, because it was not found until the bibliography was almost complete. One should consult this abstracting database, *PrimateLit*, before looking for relevant primate sources.

Introduction

Sources in mammalogy and its subset primatology share many characteristics with other science and technology information materials. First, mammal and primate sources appear in all levels of difficulty. Indexing and abstracting services, encyclopedias, field guides, and websites in these fields of study have material relevant to both researchers and the general public. Second, just like other science disciplines, mammalogy and primatology have controlled vocabulary and subject terms that make it difficult for those unfamiliar with the field to conduct efficient research. Third, mammal and primate research resources are available in a large quantity, and can be accessed in a wide variety of formats. There are two reasons for this; the first being increased online access to previously elusive primary documents, and the second being that mammals, particularly primates, are the most experimented with and studied. However, there are also some distinct differences between mammalogical materials and other scientific resources. For instance, taxonomic resources are in much more abundance than technical reports, specifications, or tabular data. And, field guides are focused mostly on animal tracks and traces, since mammals are difficult to study in their natural habitats. Some mammal sources also tend to transcend different disciplines; as an example, primatology access points can be found in anthropology as well as various social sciences. Thus, though similar to other areas of science, materials in primate and mammal research differ in focus and scope.

Before one peruses a list of relevant mammalogical sources, it helps to know a bit of the history of mammal study. Since this bibliography focuses mainly on primate information materials, some significant historical developments in primatology will be

briefly highlighted. The time period beginning in 1929 has been called “The Initial Period” by Rosalind Ribnick (see **History 1 (p. 16)**) because primate study was more scattered and sketchy before then. The first major primate research facility was established in 1928 by Professor Robert M. Yerkes at Yale University.¹ By World War II, many more primate facilities, including those focused on conservation, were established around the globe. One of the main causes of this was the advent of the National Science Foundation, which in turn led to a demand for expanded science research. During this time, the Japanese conducted the first non-human primate field research reports. “Because the Japanese researchers considered the wild monkeys too ‘shy’ to be observed naturally, they developed a method of provisioning whereby ‘food was thrown at them’ enabling observations at close range.”² It should be pointed out that aside from a few limited published articles, findings in Japanese primatology have not been overly emphasized in this part of the world.

The number of similar field studies by participants in the Western Hemisphere did not increase dramatically until the 1960s, when such zoological interests were explored in three different international conferences devoted to the need for primate field research. This led to new documentation of the great apes by notables such as Jane Goodall, who focused mainly on the social scientific aspects of primatology. Around the same time, purely scientific field studies were first conducted by physical anthropologists from

¹ Dukelow, R. (1995). “A brief history of the regional primate research centers.” *Comparative Pathology Bulletin* 27(3): 1. Retrieved from Primate Info Net <http://pin.primat.wisc.edu/research/dukelow.html>

² Sugiyama, Y. (1965). Short history of the ecological and sociological studies on nonhuman primates in Japan. *Primates* 6: 457-460. (As cited in Ribnick, 1982.)

References list entry:

Ribnick, R. (1982). A short history of primate field studies: Old world monkeys and apes in S. Spencer (Ed.), *A history of American physical anthropology 1930-1980* (pp. 49-66). New York: Academic Press, Inc.

Washburn University. This dramatic increase in primatological field study research has been termed by Ribnick to be the “Prolific Period.” Because of the geographical distribution of primates in South America, Africa, and Asia, Third World countries have been quite helpful in primate field studies of this era. For example, Makerere University, founded in Kampala the year after Ugandan independence of 1962, appeared often in primatologists’ accounts.³

In more recent years, conservation and preservation have become some of the main focuses in primate research, due to the endangerment of many primates. For this reason, the majority of primate aggregator sources, such as encyclopedias, indexes, and databases include conservation research. Primate atlases are also devoted to conservation efforts through their concrete data of decreased geographic distribution patterns. Humane treatment of primates in captivity is also a persistent theme; many primary sources and government publications are focused on the objective of making primate captive environments as comfortable as possible, especially in light of the inhumane experimentation that has been done on primates in previous decades. Other significant themes are taxonomic documentation, research and study methods, primate reproduction findings, and various ecological topics. The following bibliography further demonstrates how primatology has become a science that encompasses many diverse philosophies and disciplines.

³ Haraway, D. (1989). *Primate visions: Gender, race, and nature in the world of modern science*. New York & London: Routledge, Chapman & Hall, Inc., 124.

Indexes and Abstracts

1. *Web of science*. (Coverage, 1955-present). The Thomson Corporation ISI Web of Knowledge database. Available through institutional subscription.

This is an online database that conglomerates the data from the Science Citation Index (SCI) and the Social Science Citation Index (SSCI). One has the option to limit his or her search to SCI. This is especially important in the study of primate biology, because it helps eliminate the aspects of primatology related to social science. The database includes almost 9,000 peer-reviewed science and social science journals, complete with corresponding bibliographic data. It indexes journal articles as well as book reviews, review papers, meeting abstracts, and more. Most significantly, it provides a number for how many times each article was cited, giving a valid indicator as to which articles are most relevant. A searcher can sort the list of data by number of times cited, or narrow their search by subject field. It has two-character field tags for general search words such as topic (instead of subject), title, author, group author (GP), and organization, among others. Also, one can also do an author search if he or she is aware that a certain author has published a lot of articles pertaining to mammalogy, primatology, or some other biological field. Options to narrow by source titles, document types, or publication years are also possible.

2. *AGRICOLA* (Coverage, 1970-present). The National Agricultural Library database. Available through institutional subscription.

Though this database mainly contains resources pertaining to agriculture, it also includes veterinary medicine and animal science, including primate studies. Its coverage is extensive; it includes over 3.5 million citations from 881 sources. It has an unlimited number of users, which ensures that searches are always accessible. What makes this database most useful is that it separately indexes books and journals, and lists books by call number that are available at various libraries. It also provides links to audiovisual materials, computer databases, maps, manuscripts, and dissertations. Specifically, it is linked to two different databases. The NAL Online Public Access Catalog contains citations to books, audiovisuals, serials, and other materials. The Article Citation database, however, allows people to locate citations complete with abstracts. Users can also browse *AGRICOLA* by subject, and find topics that more thoroughly cover their field of study. The OPAC and Article Citation database can be searched together as well as separately. One can also search within a publication. For instance, the August 1999 issue of *Journal of Mammalogy* is listed, with links to each article. Finally, users can search for terms in the fields of "author," "title" or "subject." Other field tags can be entered manually, and the database provides a list of tag abbreviations that can be used. Even though it is difficult to do a keyword search within the mammalogical field, the database is a valuable launching tool in finding a wide variety of materials for mammalogy or primatology research.

Thesauri

1. Allaby, M. (Ed.) (2000). *A Dictionary of Zoology*. (Rev. ed.). Oxford Reference Online. Boulder, CO: NetLibrary. Available through institutional subscription.

This electronic reproduction is considered a dictionary, but has many characteristics of a thesaurus. For instance, each word entry has a sidebar to link to adjacent entries as well as other accepted terms contained in the online source. It is also full of “see” and “see also” references to help the layman through jargon. It is also easy for a patron to put in a keyword search that is relevant to his or her topic, rather than having to sort through pages upon pages of data. This is significant, considering that there are at least 5,000 entries. One can also “browse” the *Dictionary of Zoology* itself as if it were a print source; the “browse” tab links to the relevant word along with all the terms that surround it. This book is designed to be a reference source for students as well as field researchers. There is wide coverage of topics, including animal behavior, genetics, reproduction, evolutionary studies, ecology, and physiology.

No more sources were found within the scope.

Guides to the Literature

1. Schmidt, D, Davis, E.B., & Jacobs, P.F. (2002). *Using the biological literature: a practical guide*. New York: Marcel Dekker.

This guide was written by Diane Schmidt, an Associate Professor of Library Administration at the University of Illinois. It is co-written with Elisabeth B. Davis and Pamela F. Jacobs, and covers biological literature in fields ranging from anatomy to zoology. It is up-to-date, with revised and expanded coverage of current print and electronic resources, including encyclopedias, online directories, handbooks, and periodicals. General as well as specialized sources are covered. It also provides new data regarding databases and various electronic publications, along with a modern guide to the best electronic searching strategies. Finally, it covers problems in web searching for biological literature, such as the lack of links between citations in online indexing and abstracting services. What makes this source an important addition to this bibliography is its in-depth history of biological literature, as well as its thorough guide to its defining characteristics. It also has an entire section on subject access to biological information, which makes it a viable research for both librarians and researchers. This section describes the Library of Congress Subject Headings, Biological Abstracts, and Medical Subject Headings, with information about the controlled vocabularies of each. The only downside to this guide, from a mammalogical standpoint, is that the mammalogy resources are lumped together with literature of other species under “zoology.”

2. Westerman, R.C (1994). *Fieldwork in the library: A guide to research in anthropology and related area studies*. Chicago and London: American Library Association.

Published by the American Library Association, this is an extensive guide to the literature that is found in anthropology and other related areas. Though primatology is not the main focus of this work, the section on physical and biological anthropology provides literature specific to primate study. The source as a whole is directed at librarians who do not have anthropological training, and also at students of anthropology who need guidance in research, which is why it is included in this bibliography. The structure is very systematic, with research strategies for each individual field of study listed under its relevant chapter. For instance, “Searching the Bibliographic Guides” is not blanketed for all the fields, but is instead customized for each, because strategies for one area might not work for another. Each discipline chapter begins with an introduction to which sources are most common in a particular field, and which search strategies are best to use. The most important sources are then listed first, alphabetized by main entry under their respective subheadings. Some entries are given secondary status, and are considered subordinate. This means that some entries may be embedded in others, which might be hard for a reader to decipher at first. Bibliographic guide searches, current material searches, and retrospective searches are listed separately, with a brief abstract at the beginning of each. Finally, the back cover lists a couple other guides to the literature in similar fields that might be of interest to researchers.

Bibliographies

1. Schmidt, D (2003). *Guide to reference and information sources in the zoological sciences*. Westport, CT: Libraries Unlimited.

This bibliography was created by Diane Schmidt, author of *A guide to field guides* and *Using the biological literature*. It is a revision of George H. Bell and Diane B. Rhodes' *A guide to the zoological literature: The animal kingdom* (1994). Though intended as a zoological resource, the section on mammals makes it especially significant. The coverage of mammalian resources is both centralized and extensive. It divides materials on mammals by sub-family and also by geographic setting, which makes it easier to finding resources on sub-species such as primates. The types of works included are indexes, abstracts, bibliographies, journals, biographies and histories, dictionaries and encyclopedias, textbooks, checklists and classification schemes, handbooks, identification tools, and associations. Handbooks are subdivided into two sections, one systematic (covering different species) and one geographic. Identification tools are only divided geographically, however. Web resources are also included, but do not have their own heading; rather, they are integrated into their corresponding systematic or geographic sections. This bibliography as a whole is relatively up-to-date, and is useful for students, librarians, and researchers alike.

2. Schmidt, D (1999). *A guide to field guides: identifying the natural history of North America*. Englewood, CO: Libraries Unlimited. Available through the catalog as an e-book.

This is an exhaustive guide, also by Diane Schmidt. She begins with an introduction to field guides, stating that some are uniform, while others have little in common other than their inclusion in the same series. It covers plants, flora and fauna, as well as all types of animals. While not exclusively a mammalogy source, the section on mammals is quite useful, which is why this source is included. Schmidt (1999) states, "Since there are relatively few conspicuous mammal species...most mammal field guides cover fewer species and have room to cover their natural history. It is not uncommon to find field guides to the tracks and traces of mammals, since so many of them are rarely seen." Each entry in the guide is listed alphabetically by author, with a brief citation and abstract. An author/illustrator index and a title/series index help guide the reader in finding sources that are relevant. An annotated bibliography is also included, but is arranged alphabetically by author instead of by subject. While the majority of guides listed are in English, there are a few that are in French. Unfortunately, the majority of sources are based in North America, and a limited few are from Latin America, so primate coverage is a bit limited. The guide is supplemented by Schmidt's website at <http://www.library.uiuc.edu/bix/fieldguides/main.htm>. While broad in scope, this guide helps researchers find mammalogical field guides that cannot be found under any Library of Congress subject headings.

Translations

1. See Dictionary 1(p. 10)
2. See Encyclopedia 1 (p. 11)

Dictionaries

1. Heymer, A (1977). *Ethological dictionary: English, German, French*. New York: Garland Publishing, Inc.

Ethology, the study of animal behavior, is a relatively new science and uses terminology that is constantly subject to change. According to the author, “Many terms are derived from everyday language which have acquired a more specific meaning” (Heymer, 1977). This resource thus serves as a basis for ethologists from various parts of the world to discuss their findings in a cohesive manner, and is not intended for laymen. This source is helpful because behavioral studies are inevitably linked to primatology, and must be explored by biologists and anthropologists alike. The book is included here because it is a tri-lingual dictionary, and contains three different introductions; one in English, another in German, and a third in French. Instead of separating the languages into separate sections, each word contains an entry in German, followed by equivalent entries in English and French. Since the author is German, the dictionary is organized with German words first. As a result, one must be careful when attempting to find terms alphabetically, because the dictionary adheres to the German alphabet. Although this makes it a bit more difficult to navigate through, it contains many useful illustrations to aid the reader, along with separate indices for each language. Cross-references are also included, along with references to larger concepts with detailed explanations.

2. Gotch, A.F. (1979). *Mammals—Their Latin names explained*. Poole, Dorset: Blandford Press.

This unique dictionary defines mammal names and provides explanations of their Latin roots. The author begins by giving an introduction to the system of classification (known as the binomial system) to orient the reader to how the names of animals are organized. Definitions for various forms of phyla are included, also with Latin roots and explanations. The book divides the mammals into their respective orders, from monotremata (duck-billed platypus) to artiodactyla (deer, camels, etc). Each order is then subdivided into a suborder, and then the species are organized alphabetically within their respective families. Each species name has its scientific equivalent in italics, with an entry that separates the scientific term into its Latin and Greek roots. Some entries go into detail about how the Latin and Greek words were associated with a particular species, and which scientists were credited with naming them. For instance, the entry under chimpanzee states, “*pan-troglodytes*—*pan* (Gr) all, the whole; in Greek mythology Pan was the rural god of Arcadia, of pastures and woods *troglye* (Gr) a hole *dutes* (Gr) a burrower, a diver; a peculiar name for the chimpanzee as a troglodyte is a cave-dweller...The name was given nearly 200 years ago by J.F. Blumenbach, in 1779...” (Gotch, 1979). The author also provides taxonomic trees at the beginning of each order to further orient the reader to how a particular species is organized into the classification system. A helpful alphabetical index allows a reader to look up orders, phyla, and families as well as species. This is the best dictionary of mammals that is found in Jackson Library.

Encyclopedias

1. Grzimek, B. (Ed.). *Grzimek's encyclopedia of mammals*. (1990). New York: McGraw-Hill.

This extensive five-volume set that has been translated into English from German begins with a thorough introduction to mammals, including their defining characteristics, a list of subclasses and orders within their class, along with evolutionary origins and pre-historical evidences that have been found within the fossil record. Pictorial diagrams reveal information about the various body structures and anatomies of mammals, ranging from skin to reproductive organs. It then goes on to explain the possible functions of such anatomy, providing in-depth analyses of neuron stimulation and hormone activity. The first volume then touches on topics such as ecophysiology (how mammals adjust their bodies to survive their environment), geographic habitats, behavior, and endangerment. It has a comparison of species chart for each subclass, making it easy to identify the similarities and differences in different species. The chart includes both the scientific and common names for each mammal, as well as their equivalents in French and German. The second volume is significant to primatology, covering animals such as tree shrews, primates, prosimians and simians, gibbons, great apes, and humans. Each volume has its own appendix, but does not include cross-references to other volumes. The organization of mammals in these volumes is also somewhat unclear. Nonetheless, this source provides extremely in-depth analyses of mammalian species, which is why it was chosen.

2. MacDonald, D. (Ed.). *The encyclopedia of mammals*. (2001). (Rev. ed.). New York: Facts on File.

This is a user-friendly source that provides large color photographs, diagrams, tables, and illustrations. Such visuals make it easy for readers to ascertain the subject matter in the encyclopedia, and it has been chosen in this list for that reason. It is also included because jargon is limited, and the syntax is relatively easy to decipher. The three-volume set begins with an in-depth introduction to mammal physiology, biology, and sociology. A section on endangered mammals is also included. The encyclopedia is arranged systematically, with orders discussed in an overview, and families grouped in developmental sequence. Each volume begins with a list of contributors and a table of contents, and the animals contained are listed on the cover of their respective volume. For instance, Volume 2 contains primates and large herbivores. The section on primates starts with lemurs, and ends with great apes. Each species entry is listed alphabetically under their respective families, and each family page provides an adequate overview before the species are discussed. Each species entry is very detailed, complete with background information, geographic distribution patterns, and sociological aspects. If appropriate, the section ends with a section on the conservation and environment of the species. All entries end with the initials of the author, and each volume contains its own index.

Handbooks

1. Napier, J.R., & Napier, P.H. (1967). *A handbook of living primates*. London: Academic Press.

Unlike other similar scientific resources, the title of this work directly explains what it is. It is a handbook designed for biologists and zoologists in which up-to-date information about primates is available. Though published in 1967, the information included was the most recent at that point; primatology was still in its “collecting” phase when scientists were still gathering information. The handbook is divided into three sections: functional morphology, profiles of primate genera, and supplementary and comparative data. The functional morphology section covers thumb and toe opposability, eyes and vision, the brain, different types of placental formation, growth rates, and other aspects of primate anatomy function. The second section focuses on each primate species, beginning with an index of common names and their scientific equivalents, along with relevant page numbers. The scientific names are referred to as “generic,” a further indicator that this book is written for scientists. The data in this section also is presented under several headings, some of which include geographical range, ecology, morphology, and genetic biology. Part three is designed as an appendix of supplementary and comparative data, providing explanatory notes of terms and concepts used in second section. Many tables and formulas are included in the third section. The book concludes with an extensive list of references, along with a cross-referenced index.

2. Hayssen, V.D., Van Tienhoven, A, & Van Tienhoven, A. (1993). *Asdell's patterns of mammalian reproduction : An anthology of species-specific data* . Ithaca, NY: Cornell University Press.

This handbook is a third revision of *Patterns of Mammalian Reproduction*, originally published in 1946. It is an extensive compilation of the reproductive biology, ecology, and physiology of all mammals from over 20,000 sources. The tabular data is organized taxonomically, and the patterns of reproduction are summarized for each mammalian order and family. Aspects such as neonatal development, number within species, general habitat, diet, placental morphology, and uterine shape are included in each family account. Cross references to entries in the index are included in each family introduction, along with names and geographic locations of mammals listed. Citations are grouped by topic, and are listed at the end of each description. For each table, reproductive categories are organized alphabetically by genus, and then alphabetically by species. Some data have subcategories; for instance neonatal mass has a subheading of weaning mass. Each table entry lists corresponding bibliographic references in the index, listed numerically. If one does not know the family or scientific name of an animal, helpful species and common name indices are provided at the end of the source. The book is filled with scientific jargon, and hard-to-understand abbreviations (an abbreviation index is thankfully provided after the preface). It is a necessary aid for experts in the field who may be doing reproductive biology studies on mammals, and need a point of reference to compare their data. Although it is hard to understand, it is included here because it is quite useful once one gets past the confusion.

Manuals and Guides to the Field

1. Attenborough, D (2002). *The life of mammals*. Princeton and Oxford: Princeton University Press.

This book aims to provide a survey the entire class of mammals, humans included. David Attenborough, a notable in the field of natural biology, has narrated a variety of documentaries in zoology and earth science. The book is meant to supplement a documentary video that was being made at about the same time. Attenborough uses familiar names of species in this book, and each common name has a reference in the index to its scientific equivalent. The names are arranged alphabetically, with scientific names in italics, which is user-friendly for laymen. Interestingly, each mammal group is classified by diet rather than by phyla or species. The resource begins with an overview of mammals, including a brief history as to their possible origin, and focuses on animals that have adapted to unstable environments, such as extreme cold or heat. The following chapters include information on mammal species that are organized into insectivores, herbivores, and omnivores. Apes have their own separate section, with humans included. Extinct mammals are excluded, which makes this source relevant in this bibliography. The only flaw this book has is that the tone is rather dry.

2. Shumaker, R.W. & Beck, B.B (2003). *Primates in question: The Smithsonian answer book*. Washington & London: Smithsonian Books.

This source provides a useful introduction to primates that is directed at people who do not have regular access to primatological information, making it a significant addition to this bibliography. The book is divided into four sections: primates in general, primate social behavior, primate intelligence, and primate conservation. It is organized in question and answer format, which makes it a useful learning tool for beginners. Esoteric ideas such as primate subfamilies and orders are explained in basic terms, along with descriptions of tangible physical characteristics. Color photographs also help cement such concepts. The section on conservation is also handy, and features a list of organizations that have actively worked to promote the lives of primates. The book ends in an appendix with a taxonomic hierarchy, a glossary of scientific terms, references, and two different indices; one is taxonomic and the other is organized by subject. Though the main focus of this source is on primate behavior, the biological data included makes it a worthy read for beginners, since many other sources of primate biological information are riddled with jargon.

Textbooks

1. Campbell, C.J. (2007). *Primates in perspective*. New York & Oxford: Oxford University Press.

This textbook is especially relevant because of its currency. It is an updated version of *Primate Societies* (1987), which was the former standard for primate reference. *Primates in Perspective* expands on the original by providing data in primatology that has occurred since the 1980s. Its main objective is to offer coverage of primates in one single location so that students and professors do not need to consult a wide array of sources. It provides a broad range of topics within the field that are designed to be used by laymen, students, and scholars alike. It is divided into six main sections that reflect the current major themes in primate research, beginning with taxonomy, and then proceeding to research and study methods in the field, primate reproduction, ecological topics, and primate behavior patterns. Easy-to-understand charts and graphs are dispersed throughout the text. A background section at the beginning also orients the reader to the history of the primates, and an introduction to the field of primatology. The book thus provides a user-friendly format that can easily be used in a classroom or a professional setting.

2. Fleagle, J.G. (1988). *Primate adaptation & evolution*. San Diego & New York: Academic Press Inc.

This textbook, though a bit outdated, provides a nice introduction to primate natural history, evolution and biology. It is aimed at advanced undergraduate and beginning graduate students with a basic knowledge of biology. The book begins with general concepts, and then covers each primate group in detail. The biological coverage of the groups is presented in terms of what physical characteristics make each primate unique and able to adapt to their habitats. Helpful diagrams, photographs, illustrations and tables help orient students to the information covered. In particular, each chapter contains tables that provide taxonomy lists of animals with their corresponding common names, body weights, and limb proportions. Primate behavior is also covered, but is mostly related to adaptive patterns; thus, the text provides adequate biological coverage without straying too much into the social sciences. The book ends with coverage of the fossil record as it relates to primate evolution.

Monographs

1. Taylor, A.B. & Goldsmith, M.L. (Eds.). (2003). *Gorilla biology: A multidisciplinary perspective*. Cambridge, United Kingdom: Cambridge University Press.

This book is part of a monographic series entitled, *Cambridge Studies in Biological and Evolutionary Biology*. It compiles scattered gorilla research during recent decades into one centralized location, thus filling what had before been a gap in primatological literature. Its second purpose is to provide interdisciplinary and comparative perspectives in gorilla biology. It is organized into four main sections: gorilla taxonomy and comparative morphology, molecular genetics, behavioral ecology, and gorilla conservation. Most of the chapters are based on papers that were originally presented at a 1999 symposium, and a list of the contributors is provided at the beginning of the monograph. Articles range in subject matter from new findings that suggest genetic variability between lowland gorillas (complete with DNA evidence) to causes of gorilla habitat and population destruction. Results of various studies in each article are shown on various graphs and tables throughout. Each contribution ends with an extensive list of references. An afterword summarizing the findings and a subject index can be found at the end of the book. This monograph was chosen both for its relevancy and its currency.

2. Swindler, D.R. (2002). *Primate dentition: an introduction to the teeth of non-human primates*. Cambridge, United Kingdom: Cambridge University Press.

This is another part of the monographic series *Cambridge Studies in Biological and Evolutionary Biology*. It contains updated information on primate dentition that has been found since 1976, when the author first published another monograph, entitled, *Dentition of Nonhuman Primates*. The book is organized taxonomically, beginning with prosimians, thought of as the “lower primates” (lemurs, for example) and ending with the great apes. Some chapters present material that had not been published before, such as the micro-structures of primate teeth and their relationship to various species. Chapters 7 and 9 also provide tables that illustrate direct comparisons among living primates, such as extra cusps on pre-molars and molars. There are two appendices. The first is for “odontometry” (this word is not defined, even in the glossary), that contains tabular data for each primate species with letters and initials (m for molar, etc.) representing various teeth. Appendix 2 shows dental eruption sequences, which are listed in order by initial (m for molars again, since those usually appear first), and sequences the various teeth that come in as a primate ages. Equal signs represent teeth that appear a number of times. The sequences are divided between prosimians, New World, and Old World monkeys and apes. A glossary and taxonomic index conclude the treatise, which has been chosen here for its extensive attention to detail.

Histories

1. Ribnick, R. (1982). A short history of primate field studies: Old world monkeys and apes in S. Spencer (Ed.), *A history of American physical anthropology 1930-1980* (pp. 49-66). New York: Academic Press, Inc.

Though this work does not deal exclusively with primatology, a section of it provides a detailed history of primate field studies. The chapter is divided into three phases of primatology history, with time spans for each. It begins with the Initial Period (1929-1950), proceeds through the Formative State (1950-1959), and follows with the Prolific Period (1960-present). The chapter is concluded with a summary and references. The author provides an adequate overview, highlighting the historical events considered to be most important in the study of Old World monkeys and apes. The author also covers studies that were done in Japan, as well as research done in the Western Hemisphere. She also mentions historical trends, such as the wide-spread objective to describe norms of primate behavior in the early 1960s. Overall, she does well to explain how primate field studies had a slow beginning, but have increased rapidly since the 1960s. She also mentioned developments in the field that spawned further research, such as how the increasing abundance of fossil hominids made it easier to study primate biology. At the end of the chapter, she provides a convenient summary and timeline for the reader.

2. Haraway, D. (1989). *Primate visions: Gender, race, and nature in the world of modern science*. New York & London: Routledge, Chapman & Hall, Inc.

This book provides a narrative history of primate study through detailed descriptions and poignant (sometimes disturbing) photographs. The author aims to demonstrate the significance of primatology by relating it to modern science and popular culture. She goes to great lengths to do this, providing in-depth analyses of a wide variety of primary and secondary sources, including zoos, museums, magazine articles, and movies. In this way, she systematically presents the field of primatology through three chronological sections, beginning with “primatology before World War II”, proceeding through the post-war multiculturalism of primatology, and ending with primatology as it relates to feminist theory. Though she often ventures into the realm of social science, primate biologists will nonetheless find her accounts useful. For instance, she explains a study done at Yale University that related chimpanzee reproduction to personality traits. Some sections were previously published in various essays; thus, this source is an anthology as well as a history. An extensive source notes section, bibliography, and index can be found at the end of the work. The author uses syntax and diction that is sometimes difficult to decipher; for this reason, scientists might find it a bit more useful than laymen would.

Treatises

1. Jungers, W.L. (1985). *Size and scaling in primate biology*. New York & London: Plenum Press.

This treatise focuses on primate size and how it relates to adaptation, ecology, anatomy and physiology. It combines many different studies of this narrow subject into one source. Each contributor has written a specialized study, the first involving an overview of allometry (the study of size and how it relates to organs and organisms). Sizes of specific organs such as the brain, the gastrointestinal tract, and limbs are discussed in various studies. Other important aspects, such as sexual dimorphism (male size related to female size), fossil morphology, and mechanics of locomotion are also covered. Each chapter ends with an extensive list of references. Consistent themes, such as the issue of whether allometry is a side effect or a positive adaptation, are repeated throughout the treatise. Each study is done systematically, with tables and graphs to demonstrate findings. An author and subject index help orient the reader to the 491 page volume. Scientists and specialists studying the size of primates and their organs would find this book quite useful as a benchmark for their studies, which is why it is included in this list.

2. See Monograph 2 (p. 15).

Reviews

1. Graham, C.E. (Ed.). (1981). *Reproductive biology of the great apes*. New York, NY: Academic Press.

This is a survey of publications relating to great ape reproductive biology. It is designed as a central source for zoologists, primatologists and other biological specialists, saving them from the unnecessary task of perusing an exhaustive amount of documents. Reproductive biology is an important topic in this field because it is a defining aspect of primate activity. The book is designed both as a reference and a benchmark to determine which areas need further study, and is compiled of well-organized articles. Many contributors shared their study findings, including the editor himself. Chapter 1, "Menstrual Cycle of the Great Apes," is one that he wrote during his time at Yerkes Regional Primate Research Center. The contents of the study are outlined on the opening page, beginning with "Externally Visible Parameters of the Menstrual Cycle." Characteristics of three different great ape species, the chimpanzee, gorilla, and orangutan, are described under each heading. Other studies in the review include "The Female Ape Genital Tract and its Secretions" and "Great Apes as Models in Reproductive Biology." Each article has its own set of references. The review concludes with an index. Although not very current, this resource is extremely helpful for students and experts who want to find out more about great ape reproduction.

2. Toshisada, Nishida et al. (1992). *Topics in primatology: Vol. 1 Human origin. Vol.2 Behavior, ecology, and conservation. Vol.3 Evolutionary biology, reproductive endocrinology, and virology*. Tokyo, Japan: Tokyo Press.

The Congress of the International Primatological Society (IPS) is held every two years, and has become a well-established occurrence that attracts over 500 participants. This publication is a three volume compilation of 25 symposia that were organized as part of the IPS session held in Japan in 1990. It is especially significant because it provides insight into Japanese primatological studies from a local perspective. It is both a review as well and a conference publication, covering the most advanced data on primatology available at the time. The first volume covers issues relating to human origin, including monogamy, linguistic development, and molecular evolution. Volume 2 compiles articles about behavior, ecology and conservation, including a study of the synchrony of ovarian cycles in co-habiting female chimpanzees. The third volume concludes with evolutionary biology, reproductive endocrinology, and virology; topics in this area include primate locomotion and development and efforts to combat viral infections in nonhuman primate habitats. Each volume contains its own preface, table of contents (organized by symposia) and subject index. All articles list authors and their respective institutions, contain useful data and tables to go along with text, and conclude with a long list of references. Though not overly up-to-date, this resource provides valuable insight into Japanese primatology that cannot be found elsewhere in Jackson's collection.

Annuals and Yearbooks

1. Annual report of the German Primate Center (1991-) in *Primate Report*. Retrieved October 21, 2006 from Primate Report website.
<http://www.dpz.gwdg.de/infra/PRIMREP.HTM>

This report from the German Primate Center has been published annually in the serial *Primate Report* (see **Serial 1 (p. 23)**) since 1991. It contains reports from directors, such as a directory of the institution's primate population and a report from the Committees of the Company and Economic Development. It also has scientific reports of studies involving veterinary medicine, primate genetics, reproductive biology, and neurobiology, to name a few. Service reports are also listed, and have a wide variety of information, including directories of field-specific scientists from participating institutions that have collaborated in the German Primate Center's experimentation. The report concludes with a full directory of the scientists and administrators within the German Primate Center. Annual reports that have been published since 1997 are viewable online in an easily readable PDF format. This annual is particularly significant because it includes cutting edge information in primatology that cannot be found anywhere else.

2. See **Almanac 1 (p. 21)**

Field Guides

1. Rowe, N (1996). *The pictorial guide to the living primates*. East Hampton, NY: Pagonias Press.

This book is designed to provide an illustrative guide to the primates of the world, with a total of 234 nonhuman entries with a final entry on humans. Though large in size, it qualifies for an adequate field guide. It provides a color photograph of each species, along with tabular data covering nine different categories. These aspects include taxonomy, distinguishing characteristics, physical characteristics (separate for male and female), habitat, diet, life history, locomotion, social structure, and behavior. Some aspects, such as behavior, have subcategories. Each entry also has a topographic map showing the geographic distribution of the species, along with a scale drawing of each animal to compare its size to that of a 5'6" human. This is significant because it is rare to see primates in their natural habitat; this diagram thus provides a useful frame of reference. The introduction of the guide explores all the categories covered by giving detailed explanations of them to aid the reader. A brief section on protection and conservation of primates is also included at the end of the introduction. The book as a whole is organized into sections by suborder, starting with prosimians (bush babies and lemurs) and ending with homonids (apes and humans). A useful index with both scientific and common names helps with navigation. The table of contents also provides a photographic guide to each suborder. The intended audience is laymen, students, and experts who want to study primates in the field, and is useful since field guides to primates are rare in this part of the world.

2. Whitaker, J.O. (1996). *National Audubon Society field guide to North American mammals*. (Rev. ed.). New York: Chanticleer Press.

The contents of this guide can be applied to mammal observation in both North America and other parts of the world. It is an updated version of the 1980 publication, complete with taxonomic changes and new knowledge for each species covered. Although centered on North American mammals, non-native captive primate species, such as the rhesus monkey, are covered. Mammals that do not breed on land, such as whales or dolphins, are not included. It begins by explaining that North American mammals are difficult to observe in the field because most of them are nocturnal, and must be observed by other means. The book does well to provide an orientation to difficult-to-observe mammals and their breeding patterns, habitats, geographical range, and tracks. The track details make this guide especially useful, since tracks are the most common way to observe mammals in their natural environment. Color plates are placed at the beginning as a pictorial guide, and are divided into 17 mammal groups, indexed by plate number. Part two of the guide gives detailed species accounts to aid field observation. Measurements of mammals are also included in these accounts. A glossary, range charts, photo credits and index conclude the guide.

Almanacs

1. McGeeveran, W.A. (Ed.). (2006). *The World almanac and book of facts 2006*. New York: World Almanac Education Group, Inc.

This is the most recent edition of *The World Almanac*. It has been published annually since 1868, and is a ready-reference source for up-to-date statistics, tabular data, and articles from around the world. Although mammals are not its main focus, the categories of “Environment” and “Science and Technology” provide reliable and recent scientific data in the fields of zoology, mammalogy, and primatology. Notable endangered species can be found under the “Environment” heading, complete with scientific and common names, as well as geographic range. A separate chart of endangered and threatened animal groups is categorized into a United States list, a foreign countries list, a total species list, and a “species with recovery plans” list. Mammals are at the top of the 2005 rankings, with a total of 350 endangered and threatened species worldwide, with 55 species that have recovery plans. The “Science and Technology” section also has relevant data, including life science development articles. Articles of particular note in this edition discussed the discoveries of new mammal species, such as a never before seen African monkey, and an animal that is cross between a rat and a squirrel. The relevant key terms in these articles are in bold type, which makes it easy to get information at a quick glance. The almanac lacks a user guide, but has a table of contents, a general index, and a quick reference index. This source is useful for mammalogists or primatologists who need quick, ready-reference information about new developments or data.

2. Brunner, B. (Ed.) (2006). *Time almanac 2006 with information please*. Boston : Information Please LLC.

The *Time Almanac* was chosen over *The New York Times almanac* because it had more zoological information. The latter contains mostly generalized information that can be found in other almanacs, and mainly focuses on humans in its life sciences section. *Time*, however, covers tabular data of various animal names, gestation, incubation and longevity (of selected animals), speed, group terminology (such as “elephants: herd” and “ponies: string”), and endangered and threatened species. The animal names table is subdivided into male, female and young (a male cat being a tom, a female a queen, and a baby a kitten). The elephant has the longest gestation period of 510-730 days, followed by the donkey with 365. The fastest mammal is the cheetah (70 miles per hour), followed by its likely prey, the pronghorn antelope (61 miles per hour). The almanac begins with a table of contents on the title page, followed by a keyword index and a general index. Relevant pages of each subject are divided into separate sections of black in the text block, making the almanac easy to browse. Another table of contents is found on the final page that follows the same format. Though not specific to mammals, it contains updated tabular data that mammalogists would find relevant. It is published annually, and updates can be found online at www.infoplease.com.

Compendia and Anthologies

1. Strum, S.C. & Fedigan, L.M. (Eds.) (2000). *Primate encounters: Models of science, gender and society*. Chicago, IL: University of Chicago Press.

This anthology utilizes a wide variety of publications to provide a non-gender-biased view of primatology. It originated at a symposium that discussed how perceptions of primate societies have changed over the years. The workshop evolved into a collaboration of a then invisible college, and the participants realized that the issues discussed were more complex than they had anticipated. One of the key issues that came to the surface was the enormous number of female perspectives in the field, even when there were many primate studies conducted by men. The editors of this publication decided to expand on the original symposium by conducting an 18-month workshop of their own, compiling email discussions and various other publications into a finished work. Once the book was outlined, it was determined that it would be relevant to include excerpts from historical publications as well, which makes this book an anthology instead of a review. It is organized into a sort of hodge-podge, beginning with a history of primatology complete with excerpts of studies from pre-WWII to the present, including the views of five “pioneers” within the field. The book then proceeds into the perspectives of the participants of the symposium (spanning over 8 years of publications) along with transcripts of e-mail exchanges, all organized within their respective topics. Each chapter is followed by explanatory notes for the text to grant further knowledge. It concludes with over 75 pages of references, a list of contributors, and an index. What makes this source particularly important is that it provides perspectives that are not commonly found in this field.

2. See History 1 (p. 16)

Serials

1. *Primate Report*. v.1 (1977-). Triannually. Göttingen, Germany: E. Goltze.
Retrieved October 2, 2006 from <http://dpz.gwdg.de/infra/PRIMREP.HTM>

Primate Report is a great place to find primary sources in the field of primatology. It is published in both German and English. Issues in English are freely available on the serial's webpage, allowing the general public access to selected articles of original papers from various areas of primatology, including evolutionary biology, morphology, and physiology. It also publishes book reviews, abstracts, and conference proceedings. Special issues like the Annual Scientific Report of the German Primate Center (see **Annual 1 (p. 19)**) are included. A list of back issues is also on the webpage, but the articles cannot be viewed online. There is also a page on the website that gives specific instructions for potential authors, including specifications for title pages, abstracts, and tables. It also states that a list of keywords in English and a list of references are required. It has been published three times a year since 1977, but only select articles are available freely.

2. *Primates*. v. 1 (1957-). Quarterly. Inuyama, Japan: Japan Monkey Centre.

This journal is published quarterly and is available through both print and online subscription. It was first published in 1957 and was first available online on March 13, 2003. It is a scholarly journal mainly aimed at scientists, and includes original papers, studies, review articles, and notes. It is written chiefly in English, although some articles are submitted in German. All aspects of primate study are covered, including genetics, behavior, evolution, and laboratory primate medicine. It is abstracted in BIOSIS, Index Medicus/MEDLINE, Current Contents/Agriculture, PubMed, and the Biology and Environmental Sciences Index. It is included here because it is easy to access and contains relevant information for primatologists.

Conference Proceedings

1. Savage, A. (Ed.) (1989). *Zoo biology: Proceedings of the Workshop on the Zoo-University Connection: Collaborative efforts in the conservation of endangered species*. (Suppl. 1), New York: Alan R. Liss, Inc.

This conference supplement covers proceedings of a workshop in 1989 that shared information and trends in primate conservation, both in the wild and in captivity. The first workshop session discussed primate reproductive biology, and focused on the difficulty in captivity breeding. At the time, technologies were being developed to aid in the number of offspring in such settings. Such developments could not only increase primate populations, but also ensure possibilities for genetic diversity. Primate susceptibility to diseases was the focus of the workshop's second session. Particularly, the issue of how environmental factors affect primate immune systems was explored, with a detailed session on how to meet the needs of the animals, keepers, and researchers in a captive environment. The final workshop session dealt with the role of research and education in primate conservation, pinpointing techniques that could be applied to both fieldwork and zoo studies. One of the main reasons that the source was included in this list is because each article begins with an abstract and keywords of relevance, making this source easy for researchers to peruse. And, as with other conference publications, each article contains tables and graphs to illustrate findings. Brief author and subject indices can be found at the end, along with a specifications page listing instructions for contributors.

2. **See Review 2 (p. 18).**

Technical Reports

1. Dobie, T.G. *Archiving and databasing of non-human primate impact data*. FINAL TECHNICAL REPORT CONTRACT NO. N00014-00-1-0546. New Orleans: University of New Orleans. 2001. Accessed online on November 8, 2006. <http://handle.dtic.mil/100.2/ADA405586>

The above source is a technical report that can be accessed online through the PrimateLit database (see **Non-print material 2 (p. 37)**). This unclassified report is an example of how the government is conducting extremely inhumane experiments on nonhuman primates. The publication documents a series of experiments on what was termed “impact data” of primates. To determine injury models and biomechanics possibilities for humans involved automobile accidents or other crashes, such scenarios were simulated on nonhuman primates, who have similar bone structure and blood type to humans. What this means is that primates were purposefully dropped or impacted with forces from 3-192 kg. Frontal, rear, lateral, and vertical impacts were all measured. Sensory data was also measured, which means the primates were also exposed to traumatic visual and auditory stimulation. 30 of the 189 tests conducted were documented on videotape, and no data was taken from them, further demonstrating the uselessness of this study. The document, viewed as an online PDF, contains a section for keywords, which makes it easily retrievable as an online source. It lists all the experimental steps and procedures taken, and is most valuable to conservationists looking for evidence of primate mistreatment. One can use this document and others like it to petition against further inhumane scientific testing on animals.

No more sources were found within the scope.

Patents

1. Tzang, B. et al. (2006). *Transgenic pig containing heat shock protein 70 transgene*. U.S. Patent 7115796.

This government-issued patent can be found on the USPTO Patent Full-text and Image Database. The inventors are a team of scientists from the Animal Technology Institute. The invention is a genetically altered pig that is said to have a better meat quality, better growth rate, and reduced fat thickness. Genes are pre-selected and then the transgenic pig is produced scientifically, much like genetically-altered fruit. Complex scientific data of the gene sequence is provided, probably only discernable to genetic biologists. Procedures for how to introduce the transgene into the embryo, and how to screen a pig for presence of the transgene are also included (for those who want to try at home... ha.) Experimental procedures are also covered, such as the taking of pig tails or ears at 6 months of age to be kept in ice until the tissues are homogenized and proteins can be isolated. Other scientific acronyms, initialisms, and jargon are included, making this a read that is really suited for experts only. While practicing mammalogists might not find the content of this patent overly relevant, it does provide data as to what is currently occurring in mammal science related to genetics.

2. Diamond, D. et al. (2001). *ABO histo-blood group O alleles of the baboon*. U.S. Patent 6265557.

This patent is even more difficult to decipher than the first, and also has to do with genetics relating to mammals. It can also be found on the USPTO Patent Full-text and Image Database. It cites a lot of references, which is useful if one wants to find more patents regarding this or another similar topic. To understand the patent, one first needs to know what an allele is. An allele is defined as any number of discernable DNA codings on a given place on a chromosome. This invention, done by a bunch of scientists at Loma Linda University Medical Center, provides materials and methods for identifying O alleles of the baboon, which is said to provide the same sequence of the A allele of the baboon. What this means is that such alleles make it possible to produce baboons, baboon cells, tissues and organs that have a group O phenotype, which are useful in transplantation of cells from baboons to humans for surgeries such as organ transplant. The scientists have isolated a polynucleotide ABO in order to make such transplantation possible. As with the above patent, primatologists might not be able to directly apply its relevance, but it nonetheless provides valuable insight into primate experimentation, which might be of interest to certain animal rights groups.

Dissertations and Theses

1. Darr, D.B. (2005). The effects of peripherally administered alpha-MSH on food intake, weight change and reproductive development in leptin-deficient and wild-type female house mice. *MAI 44/04, 1731*. (UMI No. 1432406). Master's thesis, University of North Carolina at Greensboro. Obtained from *Current Research @ UNCG*.

This Master's thesis is 52 pages long, and was finished here at UNCG last year. It is available for download by UNCG students, and also available as an image-only PDF to anyone who subscribes to *Current Research @*. Since the document is highly scientific and specialized, a few key terms need defining before it can be explained in laymen terms. The first is leptin, which is a hormone that regulates appetite and metabolism. Alpha-MSH, however, is a hormone from the pituitary gland that regulates skin and hair color. This student experimented with whether MSH administered to mice would have the same effect as leptin. He correlated the two hormones because they both increase during pregnancy. In his study, he used leptin-deficient and wild-type female house mice, injecting some with MSH, and others with saline, to do a comparative study of how metabolism and weight gain changed in both groups. He found that if the MSH was injected peripherally, it had the opposite effect of peripherally administered leptin on weight gain and reproductive development. The basis of his study was possible scientific treatments for human obesity. The dissertation as a whole includes an abstract, introduction, objectives, hypotheses, results, discussion and conclusions, as well as three appendices. Appendix A covers mass measurements from each treatment group, Appendix B shows measurements of daily food intake measurements, and Appendix C is a table of uterine mass data. This thesis is included in this bibliography because it is the only one from UNCG that has to do with mammal study.

2. Lujan, Marla Elaine. (2005). Endocrine responses to caloric restriction in the non-human primate: Effect of leptin and re-alimentation. *Dissertation Abstracts International 61/02, 645*. (UMI No. NQ99814). Doctoral dissertation, Queen's University at Kingston (Canada). Obtained from *Current Research @*.

This dissertation is similar to the first, and is obtained from the same source, but this Queen's University student was much more cruel to her experimentation subjects. The study is 258 pages long, and covers the effect of leptin administration in rhesus monkeys in order to hypothesize whether leptin can be used as a treatment for amenorrhea, or, the absence of menstrual periods. She began by reducing their calorie-intake to induce an amenorrhea-like state, from which she began injecting them with leptin to see what resulted. The leptin normalized cortisol secretion (related to weight gain), but did not restore ovulation. The monkeys were also immune to human leptin, which means that such a treatment is quite ineffective. The only useful piece of knowledge she obtained from her study was scientific proof that caloric restriction affects the reproductive organs and processes on many different levels. This study was chosen because primates were the subjects, but primatologists, particularly animal activists, would likely find it more upsetting than informative.

Preprints and E-prints

1. Lieberman, D. E. et al. (2000). *The primate cranial base: Ontogeny, function, and integration*. Retrieved on October 22, 2006 from <http://fas.harvard.edu/~skeleton/pdfs/2000d.pdf>

This e-print is available as a 53-page PDF from the e-print network website of research communications for scientists and engineers (<http://eprints.osti.gov>). The website has documents made by scientists for scientists, and one can find a list of full-text PDFs from a particular author if they so choose. This particular e-print is a comparative analysis of the cranial base development functions between humans and primates, written by three scientists from various university departments of anthropology, anatomical science, and molecular biology. This online publication helps give scientists an understanding of the cranial base and its important functions related to primate function and behavior. Such information is crucial to primate study, especially regarding evolution. The document begins with a list of keywords, such as cranial base, basicranium, chondrocranium, primates and humans. It also has an abstract, which makes it easy for researchers to determine how the information contained can best pertain to their studies. The authors also provide a glossary, introduction, background of cranial anatomy and development, tables and figures, and conclusions they have ascertained. The source is quite user-friendly to scientists, providing them with a comprehensive central source on primate cranial study; the authors do well to provide the background necessary for scientists to understand the text. A list of works cited is also available if scientists would like to find other sources for further research.

2. Shostack, Y et al. (2002). *Cortical synaptic arrangements of the third visual pathway in three primate species: Macaca mulatta, saimirisciureus, and aotus trivirgatus*. Retrieved on October 22, 2006 from <http://psy.vanderbilt.edu/faculty/casagrandelab/ShostaketelJNO2.pdf>

This document was found on the same website as the above preprint, and is available as a 9-page full-text PDF document. It was written by four professors at Vanderbilt in the departments of cell biology, psychology, and ophthalmology. It explores the possible role of the koniocellular (K) pathway, which is one of the three pathways to the visual cortex. Previous studies on the K pathway suggest that its function is for discerning color, but it is also found in nocturnal primates that are colorblind. For this reason, the authors wanted to investigate if the K pathway has other functions as well. They did a comparative study of macaque and squirrel monkeys (both diurnal) and the owl monkey, which is a nocturnal primate. Similarities and differences between the K pathway of the owl monkey and the K pathways of the daytime monkeys are discussed, supplemented by photographs of microscopic images that make the text more easily discernable. What they found was consistent with the past studies done, and they hypothesized that the K pathway is necessary in nocturnal primates for transfer of visual images to the brain. A list of references is found at the end for further perusal on this subject. The document was chosen in this because of its specialized information about the functions of primate eyesight that is unlikely to be found elsewhere.

Tables

- 1. See Handbook 2 (p. 12)**
- 2. See Taxonomic Literature 2 (p. 32)**

Standards and Specifications

1. Department of Agriculture. (1991). USDA Final Rule on Environment Enhancement to Promote Psychological Well-Being--Section 3.81. Vol. 56, No. 32, *Federal Register*. Retrieved on November 9, 2006 from <http://www.nal.usda.gov/awic/pubs/primates/primate1.htm#toc16>

These regulations for captive primate environments that were published directly from the USDA can be accessed online through *Environmental enrichment for nonhuman primates resource guide* (**See Government Publication 1 (p. 31)**) under “Appendix A.” The standards are divided into four categories of social grouping, environmental enrichment, special considerations for nonhuman primates, and restraint devices. Each category is hyperlinked from the opening paragraph of the USDA ruling. The document is the final ruling of the USDA, and includes input that they received from the general public. The USDA considered some of this input, but provided explanations for input they did not include. “A small number of commenters stated that any release of nonhuman primates for exercise and social interaction should be documented. We do not consider such documentation necessary for enforcement purposes. With the requirement for a written plan, and inspections by Department personnel, we do not expect enforcement problems with the regulations as proposed” (USDA, 1991). The USDA’s exemptions are also included at the bottom of the document, which was chosen both for its easy accessibility and its significance as a positive step in humane primate treatment.

No more sources were found within the scope.

Government Publications

1. Animal Welfare Information Center Series (2000). *Audio-visuals relating to animal care, use, and welfare*. United States Department of Agriculture.

This is a systematic bibliographic source from the U.S. Department of Agriculture that lists audiovisual materials related to veterinary care, laboratory guidelines, and animal behavior. Videocassettes, microforms, and microfiche are annotated alphabetically by title, each with a citation, relevant keywords, call numbers, and abstracts. A list of useful organizations and their acronyms are listed on the first page, followed by an alphabetical index of the titles included. Though all zoological animals are covered, mammals seem to be the main focus, and there are some particularly relevant resources on primates as well. If one wants copies of the items listed, a detailed mailing guide is provided at the end of the list. A very useful subject index is also at the end of the document, with cross-references to different page numbers. All in all, this source is a very valuable document for primatologists and mammalogists because it allows them a central place to find audiovisual sources to supplement their research. The only downside is that a document such as this is hard to come by.

2. National Agricultural Library, Animal Welfare Information Center (1999). *Environmental enrichment for nonhuman primates resource guide, January 1992-February 1999*. U.S. Dept. of Agriculture, Agricultural Research Service: Kreger, M. Retrieved October 29, 2006 from <http://www.nal.usda.gov/awic/pubs/primates/primate1.htm>

Available freely online, this government publication lists directories, literature, listservs, current standards, products and suppliers, and organizations involved in designing humane habitats for primates in captivity. Though it does not include all the resources available on this subject, it provides a central location for environmental enrichment materials and information. It has a directory of companies that manufacture primate enrichment products, complete with contact information and internet links to online product catalogs. The document as a whole also has audiovisual materials on primates that are listed under a separate heading. A bibliography of materials from 1992-1999 is also included, the bulk of which are un-refereed journal articles, newsletters, bulletins and conference proceedings. The articles are organized by subject, with books and proceedings listed at the bottom. Most of the materials listed would have to be obtained through inter-library loan because they are contained in the National Agricultural Library (NAL). The bibliographical entries cover all animals as well as primates, and each entry has its own NAL call number. For online viewing, selected articles from the *Animal Welfare Information Center Newsletter* are hyperlinked. Specifications for the promotion of primate psychological well-being are listed at the bottom of the webpage in a detailed appendix. Laws and regulations of this nature are also specified. The source as a whole is updated regularly online by Kristina Adams of the Animal Welfare Center, and has hyperlinks that make it very easy to navigate through.

Taxonomic Literature

1. Groves, C. (2001). *Primate taxonomy*. Washington D.C.: Smithsonian Institution Press.

This is the most recently published source of primate taxonomy in Jackson Library, which is significant because names and classes are constantly changing in the light of new discoveries within primatology. Its coverage aims to be as objective as possible; the author does this by focusing on individual species and how they function from an evolutionary perspective, or, phylogeny. This also allows a greater coverage of biodiversity within the primate order. The book begins with a table of contents that includes subheadings within chapters, making the contents quite easy for researchers to browse. The book is divided into two sections, the first being “The Theory of Primate Taxonomy.” In this section, the author provides an extensive background of primate taxonomy for those who are not familiar with it. The second part of the book is entitled, “Putting Primate Taxonomy into Practice,” and takes up the majority of the content. Here, the author classifies the primates in detail, noting varieties of physical characteristics within each species. Geographic distribution is also covered. A glossary of relevant terms is included, as well as an extensive literature cited section and index. All in all, this is a useful source for laymen and researchers alike.

2. Wilson D.E. and Reeder D.M. (Eds.) (2005). *Mammal species of the world*. National Museum of Natural History, Smithsonian Institution. Retrieved on October 29, 2006 from <http://nmnhgoph.si.edu/msw/>

Mammal species of the world is an online database with taxonomic information in tabular form for all mammals. It is relatively easy to navigate, with at least three access points for users. First, one can begin at the root of the hierarchy (i.e. mammalia), and then select the “offspring” button to select orders, then families within the order, and then species within a family. Each entry gives a quick synopsis of the species, including common name, original name, distribution, geographic dispersion, and status (i.e. endangered). Though the information is not overly detailed, it provides a nice glimpse into some basic species stats. Two other ways to navigate are to look mammals up by common name or scientific name through keyword searching, thus making this database useful for both experts and hobbyists. Any taxonomic synonyms can be found by clicking the “synonyms” button in a given entry. An “image” button also allows viewers to see photographs of the animals they are studying. It is important to note that not all entries have this feature. Literature citations can be found on the “About MSW” page, and the list is quite extensive. A complete taxonomic table is available for download in Excel, PDF and zip file formats. The best part of this source is its currency; because it is in web format, it is updated frequently and thus has more accurate information than most mammalian taxonomic literature.

Other Primary Sources

1. Goodall, J. (1992). *The chimpanzee: The living link between 'man' and 'beast': The third Edinburgh medal lecture*. Edinburgh: Hunter and Foulis.

This is a bound, published transcript of the lecture that Jane Goodall gave after winning the Edinburgh Medal in 1991. The Edinburgh International Festival of Science and Technology occurs yearly with conferences, seminars, debates, and lectures in science research. Goodall is a noted figure in primatology, leading ground-breaking chimpanzee research that began in 1960 with her chimpanzee studies from Tanzania. Her work has greatly influenced primatological research ever since. Though her perspective is of the social sciences, her findings have also aided biological facets of primatology. She begins her speech by stating that she will use the award money she has received for the medal in further chimpanzee conservation efforts. She then goes on to explain about the Gombe research center and its purposes, and gives the audience an overview of the norms of chimpanzee societies. The rest of her lecture is comprised of her various experiences of over three decades of research, concluding with a further emphasis on the importance of primate conservation. She demonstrates this through a symbolic story about how a zoo visitor saved a captive chimpanzee from drowning. The publishers of the bound work added color photographic plates of chimpanzees that Goodall has worked with over the years. These visual aids help Goodall's words come to life. This is thus an important primary source for researchers who want background information, conservationists who want concrete evidence to support their efforts, or laymen who are interested in visual and usable examples of chimpanzee social interaction.

2. **See Standards and Specifications 1 (p. 30) .**

Trade Catalogs and Directories

1. The Wisconsin Primate Research Center (2006). *International directory of primatology*. Retrieved on November 9, 2006 from <http://pin.primate.wisc.edu/idp/>

The International Directory of Primatology (formerly known as the World Directory of Primatologists) can be accessed online from the Primate Info Net website (see **Non-Print Material 1 (p. 37)**). It is a directory of organizations, people, and field studies. It also includes a products and services directory, which is relevant for those who want to find companies that manufacture materials for captive primates. Each company is listed alphabetically, and contains summaries as well as contact information. Organizations are listed alphabetically within hyperlinked categories such as Animal Welfare Agencies, Government Agencies, Sanctuaries and Societies, and Federations and Groups, to name a few. Missions, objectives, and key personnel are included with contact information for each organization. The people section provides contact information for all individuals involved in various facets of primatology. One can do a search either by keyword or through a hyperlink to the first letter of a person's last name. Individuals' areas of interest and job positions are included with contact information. Even more significantly, dates of entry are included, making it easy to determine the information might be outdated. This directory is very organized, comprehensive, and easy to navigate.

2. See **Government Publication 2 (p. 31)**

Atlases

1. Wolfheim, J. H. (1985). *Primates of the world: Distribution, abundance, and conservation*. Seattle and London: University of Washington Press.

This atlas was compiled by Jaclyn H. Wolfheim of the New York Zoological Society, and it provides a detailed account of primate geographical distribution in order to demonstrate the importance of primate conservation. Mainly aimed at conservation organizations, government agencies, and researchers, the geographic data can aid in the planning of potential habitat reserves, provide visual evidence of the significance of primate endangerment, and help researchers determine which species are most threatened. In the section entitled, "Methods," the author explains the global extent of her research, supplemented by detailed maps. The book then arranges the different primates taxonomically, providing each species with a map of geographic distribution and range, complete with supplementary statistics of abundance and density, habitats, factors affecting populations, and conservation actions (or lack thereof). Geographic distribution is also provided in tabular form. The book concludes with a long list of references, and a tabular appendix of primates imported into the United States from 1968-1973. Though a bit outdated, this atlas can potentially act as a benchmark for researchers to conduct repeat studies that could produce more current data. This source is also important because geographical data that is specific to primates is rare.

2. Mitchell-Jones, A.J. et al. (1999). *The atlas of European mammals*. San Diego and London: Academic Press.

This atlas is more current than the other one listed, but its scope is generalized to other mammals besides primates. It focuses on the European region alone, covering almost 200 European mammals, including a few primate species, but excludes primates from other global regions. Nonetheless, it is a very important source in both primatology and mammalogy for a couple reasons. First, it began as a project by *Societas Europaea Mammalogica* back in 1988 at a meeting in the National Museum of Natural History in Paris. From then until the work was published, mammalogists from various regions in Europe (except Russia) compiled detailed species accounts that were supplemented by an agreed mapping system. Due to the extensive amount of abstracted data that was collected, a new database had to be set up to help organize the information. A second aspect that makes this source unique is that each species has a table that translates its common name into 30 different European languages. The atlas is set up similarly to the first one listed, and also has the same objective of demonstrating the need for mammal conservation. However, the map data found in this source is much more detailed than the first, covering both species data from 1970 to the present, as well as hypothesized distribution statistics from before 1970 for species that have not yet been deemed extinct. Other abstracted statistics for each species include distribution, habitat, population status, conservation status, and other information that is not category-specific. Each account cites its author, much like the initials one can find in a verifiable encyclopedia. A tabular list of all mammal species can be seen at the end of the book, with the ones covered in this monograph highlighted in bold type.

Union Lists

1. *WorldCat*. (Coverage, circa 1000 B.C.-present). Online Computer Library Center database. Available online and through institutional subscription.

WorldCat is the most comprehensive union catalog in this part of the world, covering over 52 million items. Such items include books, dissertations, audio-books, films, maps, music recordings, manuscripts, and websites. It is possible within WorldCat to limit one's search to one of these formats. The opening screen gives one the option to search by keyword, author, title, year, or ISBN. Once items are found, one can click on the "Libraries Worldwide" link to determine which libraries house certain items. This is especially useful when looking for materials that need to be obtained through inter-library loan. WorldCat is helpful in finding items in both the sciences and humanities, but proves particularly important in the sciences because it provides easy access to primary sources such as dissertations, studies, and other emerging research. The catalog is updated often, but its downside is that it sometimes contains duplicate records. WorldCat can now be freely accessed online through the OCLC website by libraries that do not subscribe to it; anyone can search by zipcode to find items held in nearby libraries.

2. *MadCat*. (Coverage, 19th Century-present). University of Wisconsin College Libraries database. Available online and through institutional subscription.

MadCat is the union catalog for the libraries in the University of Wisconsin (UW) system. It includes over 6 million books, audiovisual materials, periodicals, maps, microforms, musical scores, and computer databases. It does not, however, provide direct access to journal articles. Such information can only be obtained through the UW-Madison Libraries webpage, through the hyperlink "Journals, Magazines, and Newspapers." What makes this union catalog especially significant in the field of primatology is its inclusion of the Jacobsen Library collection. Jacobsen Library supports the research and informational needs of the Wisconsin Primate Research Center, and collects print and digital sources related to nonhuman primates. A lot of the research facility's information on primates can also be obtained online through Primate Info Net (see **Non-print material 1 (p. 37)**). Some relevant additions to MadCat as a whole include an online MadCat "Quick Guide" to online resources and databases, available in both PDF and HTML formats, as well as a search page for updated titles that have been recently cataloged into the system. This list is updated weekly.

Non-print Materials

1. *Primate Info Net*. (2006). Wisconsin Primate Research Center Library. Retrieved on November 10, 2006 from <http://pin.primate.wisc.edu/>

Primate Info Net is THE online source for primate information and materials. It is maintained by the Wisconsin Primate Research Center Library, also known as Jacobsen Library, which is at the University of Wisconsin-Madison. The website includes original sources (viewable in PDF) as well as online web links to relevant information including directories, news and publications, and online databases. The content is quite detailed and extensive, and relevant subheadings can be linked from the left sidebar. Some of these subheadings include “factsheets” (which provide encyclopedic information and geographic distribution of each primate species), PrimateLit (the best online database to use for primate sources, see **Non-print Material 2, below**), and the Jacobsen Library Online catalog (including audio-visual sources relating to primates). Other relevant links include resources about primate conservation, taxonomy, lists of government sponsored programs, the International Primate Directory (see **Directory 1, (p. 34)**), and various research resources including links to grant information, animal welfare legislation and policies, and studies in primate biomedical research. Within the site, there are also links to **Union List 2 (p. 36)** and **Government Publication 2 (p. 31)**. The site as a whole is updated daily, with new additions hyperlinked in a list under the sidebar link, “What’s New in PIN.” This website thus supplies aggregated information to supply the “one-stop shopping” needs of any primatologist, mammalogist, or layman.

2. *PrimateLit: A bibliographic database for primatology*. (Coverage, 1940-present). Washington National Primate Center. Available online.

Although this is the last source listed in this bibliography, it should have been the first. It is the first online database that one should consult when researching primates. It abstracts books, technical reports, dissertations, book chapters and articles having to do with all facets of primate research. Some key subject areas that are covered include taxonomy, physiology, veterinary science, field studies, ecology, and reproduction. The opening page of the database also gives useful search tips to help users navigate. Most importantly, it allows online access to sources, such as technical reports, that are otherwise elusive in primate research. As well as providing typical database access points such as author, title, and keyword, it also allows one to limit by taxonomic category, geographic region, common name, or journal title. There is another database within PrimateLit that is known as “Current Primate References (CPR).” It allows easy access to the most recently indexed articles in primatology. One can limit by date, species, discipline, body region (i.e. reproductive system), or format (book review) if they so choose. This proves remarkably relevant for researchers who want the most current information available on primates. Such articles are accessible through both CPR and PrimateLit.