

# RESEARCH GUIDE

## Biology

### George Mason University Libraries

How is printed information in the field of **BIOLOGY** organized? Biologists publish their theories, their practices, and the results of their research in journals, reports, and books. Indexes and abstracts list these sources, and provide the information needed to locate them. Encyclopedias, dictionaries, and books of tables contain easy-to-access information on a wide variety of topics.

Besides general biology and the life sciences, specific subjects covered in this research guide include: **anatomy/physiology**, **botany**, **microbiology**, **molecular biology**, and **zoology**. Selected web sites pertaining to biology can also be found on the library home page (<http://library.gmu.edu>) under "Selected Websites by Subject."

Consult the following resources (and similar books shelved near them) to become acquainted with effective research methods in the biology literature.

Locations: Fenwick Library (Fen.) and Johnson Center Library (JCL).

#### **GUIDES TO THE LITERATURE**

**Guide to Information Sources in the Botanical Sciences.** 1996.  
Fen. Ref. QK 45.2 .D38

**Guide to the Zoological Literature.** 1994.  
Fen. Ref. QL 45.2 .B46

**Information Sources in Science and Technology.**  
Fen. Ref. Desk (1998) and JCL Ref. (1994) Q 158.5 .H87

**Information Source in the Life Sciences.** 1997.  
Fen. Ref. QH 303.6 .I54

#### **GENERAL DICTIONARIES AND ENCYCLOPEDIAS**

**Biolexicon: a Guide to the Language of Biology.** 1990.  
Fen. Ref. and JCL Ref. QH 302.5 .B59

**Concise Encyclopedia Biology.** 1996.  
Fen. Ref. QH 302.5 .A2313

**Encyclopedia of Bioethics.** 1995. (5 vols)  
Fen. Ref. and JCL Ref. QH 332 .E52

**Encyclopedia of Life Sciences.** 2002.

Fen. Ref. QH 302.5 .E54

**Encyclopedia of the Biosphere.** 2000.

Fen. Ref. GF 75 .B5613

**Henderson's Dictionary of Biological Terms.** 1995.

Fen. Ref. QH 302.5 .H65

**Magill's Survey of Science: Life Science Series.** 1991. (6 vols)

Fen. Ref. and JCL Ref. QH 307.2 .M34

**McGraw-Hill Encyclopedia of Science and Technology.** 1997. (20 vols)

Fen. Ref. and JCL Ref. Q 121 .M3

## **ANATOMY / PHYSIOLOGY**

### **Dictionaries and Encyclopedias**

**Cambridge Encyclopedia of Human Growth and Development.** 1998.

Fen. Ref. QP 84 .C26

**Encyclopedia of Human Biology.**

Fen. Ref. (1997, 9 vols) and JCL Ref. (1991, 8 vols) QP 11 .E53

**Encyclopedia of Human Nutrition.** 1999. (3 vols)

Fen. Ref. QP 141 .E526

**Encyclopedia of Stress.** 2000. (3 vols)

Fen. Ref. QP 82.2 .S8 E53

**Encyclopedia of Reproduction.** 1998. (4 vols)

Fen. Ref. QP 251 .E48125

### **Other Resources**

**Geigy Scientific Tables.** 1977-1981. (4 vols)

Fen. Ref. QP 33.5 .G4513

**Grant's Atlas of Anatomy.**

Fen. Ref. (1999) and JCL Ref. (1991) QM 25 .A38

**Gray's Anatomy.** 1995.

Fen. Ref. QM 23.2 .G73

**Handbook of Physiology.** 1977-1998. (various vols)

Fen. Ref. QP 6 .H25 and Fen. Stacks QP 6 .H3

## **BOTANY**

### **Dictionaries and Encyclopedias**

**Concise Oxford Dictionary of Botany.** 1992.  
Fen. Ref. QK 9 .C67

**Dictionary of Plant Pathology.** 1989.  
Fen. Ref. SB 728 .H65

**Dictionary of the Fungi.** 1995.  
Fen. Ref. QK 603 .A5

**Encyclopedia of Herbs and Their Uses.** 1995.  
Fen. Ref. SB 351 .H5 B645

**Hortus Third.** 1976.  
Fen. Ref. SB 45 .B3

**New York Botanical Garden Illustrated Encyclopedia of Horticulture.** 1980. (10 vols)  
Fen. Ref. SB 317.58 .E94

**Plants and Their Names.** 1995.  
Fen. Ref. QK 96 .P35

### **Other Resources**

**Colour Atlas of Poisonous Plants.** 1984.  
Fen. Ref. QK 100 .A1 F7613

**Cross Name Index to Medicinal Plants.** 1996. (3 vols)  
Fen. Ref. QK 99 .A1 T65

**Guide to Standard Floras of the World.** 1984.  
Fen. Ref. QK 45.2 .F76

**Manual of Woody Landscape Plants.** 1975.  
Fen. Ref. SB 435 .D57 M3

## **MICROBIOLOGY**

### **Dictionaries and Encyclopedias**

**Encyclopedia of Immunology.**  
Fen. Ref. (1998, 4 vols) and Fen. Stacks (1992, 3 vols) QR 180.4 .E53

**Encyclopedia of Microbiology.** (4 vols)  
Fen. Ref. (2000) and JCL Ref. (1992) QR 9 .E53

**Encyclopedia of Virology.** 1994. (3 vols)  
Fen. Ref. QR 358 .E53

### **Other Resources**

**Bergey's Manual of Systematic Bacteriology.** 1984. (4 vols)  
Fen. Ref. and JCL Perm. Res. QR 81 .B46

**CRC Handbook of Microbiology.** 1977-88. (9 vols)  
Fen. Ref. QR 6 .C2

**Handbook of Microbiological Media.** 1997.  
Fen. Ref. QR 66.3 .A85

**Manual of Clinical Microbiology.** 1999.  
Fen. Ref. QR 46 .M425

**Manual of Industrial Microbiology and Biotechnology.** 1999.  
Fen. Ref. QR 53 .M33

**Practical Handbook of Microbiology.** 1989.  
Fen. Ref. QR 72.5 .P73

## **MOLECULAR BIOLOGY**

### **Dictionaries and Encyclopedias**

**Concise Dictionary of Biomedicine and Molecular Biology.** 1996.  
Fen. Ref. R121 .J86

**Dictionary of Cell and Molecular Biology.** 1999.  
Fen. Ref. QH575 .L24

**Dictionary of Gene Technology.** 1995.  
Fen. Ref. QH 442 .K35

**Dictionary of Genetics.** 1997.  
Fen. Ref. QH 427 .K55

**Encyclopedia of Genetics.** 2002.  
Fen. Ref. QH 427 .E53

**Encyclopedia of Molecular Biology and Molecular Medicine.** 1996. (6 vols)  
Fen. Ref. QH506 .E534

**Encyclopedia of Molecular Biology.** 1999. (4 vols)  
Fen. Ref. QH506 .E53

**Oxford Dictionary of Biochemistry and Molecular Biology.** 2000.  
Fen. Ref. QP 512 .O94

### **Other Resources**

**Biochemical Pathways: An Atlas of Biochemistry and Molecular Biology.** 1999.  
Fen. Ref. QP 171 .B685

**Genetics Manual: Current Theory, Concepts, Terms.** 1998.  
Fen. Ref. QH 427 .R43

**Handbook of Biochemistry and Molecular Biology.** 1975. (5 vols)  
Fen. Ref. QH 345 .H347

## **ZOOLOGY**

### **Dictionaries and Encyclopedias**

**American Insects: A Handbook of the Insects of America North of Mexico.** 2000.  
Fen. Ref. QL 474 .A76

**Concise Oxford Dictionary of Zoology.**  
Fen. Ref. (1991) and JCL Ref. (1992) QL 9 .C66

**Fishes of the world.** 1975.  
Fen. Ref. QL 614.7 .W5 F5

**Grzimek's Animal Life Encyclopedia.** 1972. (13 vols)  
Fen. Ref. and JCL Ref. (some vols) QL 3 .G7 G7

**Grzimek's Encyclopedia of Evolution.** 1976.  
Fen. Ref. QE 711.2 .G79

**Grzimek's Encyclopedia of Mammals.** 1990. (5 vols)  
Fen. Ref. and JCL Ref. QL 701 .G7913

**Illustrated Encyclopedia of Birds.** 1990.  
Fen. Ref. and JCL Ref. QL 672.2 .I45

**Insects of the World.** 1972.  
Fen. Ref. QL 463 .L5 I6

**Invertebrates: An Illustrated Glossary.** 1992.  
Fen. Ref. QL 362 .S82

**North American Herpetology.** 1976. (5 vols)  
Fen. Ref. QL 651 .H66 N6

## Other Resources

**Animal Behavior Desk Reference.** 1995.  
Fen. Ref. QL 750.3 .B37

**CRC Handbook of Avian Body Masses.** 1993.  
Fen. Ref. QL 697 .D86

**CRC Handbook of Mammalian Body Masses.** 1995.  
Fen. Ref. QL 739 .S48

**Distribution and Taxonomy of Birds of the World.** 1990.  
Fen. Ref. QL 678 .S54

**General Histology of the Mammal.** 1985.  
Fen. Ref. QM 557 .K7713

**Invertebrates: A New Synthesis.** 1993.  
Fen. Ref. QL 362 .B26

## INDEXES AND ABSTRACTS

Each year biologists publish a massive amount of information in scholarly and professional journals and reports. You can use the following indexes to identify articles, reports or other materials on specific subjects. Paper indexes are shelved on the west side of the Fenwick Library Reference Room and their call numbers begin with "Index." For a comprehensive list of the library's electronic indexes, see <http://library.gmu.edu/resources/databases.html>. Here is a listing of a few major indexes related to biology, both in print and in electronic format.

**Biological Abstracts.** Fen. Ref. Index QH 301 .B5 (1989-current) or Web Access, 1980- .  
Biological Abstracts, also know as BIOSIS, is the world's most comprehensive reference database in the life sciences. It covers articles from over 7,000 journals, as well as original research reports and reviews, letters, and technical data reports

**Cambridge Scientific Abstracts.** Web Access, coverage varies.  
Various databases covering scientific literature. Includes: Biological Sciences, Biotechnology & Bioengineering Abstracts, Microbiology Abstracts, Oceanic Abstracts, Plant Science, and others.

**Science Citation Index.** Index Q 1 .S3 (1961-1986) or Web Access, 1980- .  
An index to research papers from worldwide scientific journals. Unique in that it allows searching by institutional affiliation of authors and by the works cited in current papers. Author index and Keyword (from title) index.

**Zoological Record.** Web Access, 1978- .  
Provides the most comprehensive coverage of worldwide zoological literature--references from over 6,500 international journals, review annuals, monographs, meeting proceedings, books, and reports.

### **NOMENCLATURE / KEYS / FIELD GUIDES**

Search for keys, name lists and field guides on specific groups of organisms in the following call number areas in reference or in the stacks. (Other biological keys are listed in the library catalog.)

<b>Bacteria/viruses</b>	<b>QR 6 - QR 358</b>	<b>Fish</b>	<b>QL 614 - QL 638</b>
<b>Fungi</b>	<b>QK 603 - QK 617</b>	<b>Amphibians/Reptiles</b>	<b>QL 641 - QL 666</b>
<b>Plants</b>	<b>QK 9 - QK 569</b>	<b>Birds</b>	<b>QL 672 - QL 696</b>
<b>Insects</b>	<b>QL 441 - QL 581</b>	<b>Mammals</b>	<b>QL 703 - QL 737</b>
<b>Other invertebrates</b>	<b>QL 362 - QL 411</b>		

### **LIBRARY OF CONGRESS CALL NUMBERS—LIFE SCIENCES**

<b>Science, General</b>	<b>Q</b>	<b>Human Anatomy</b>	<b>QM</b>
<b>Biology (General)</b>	<b>QH</b>	<b>Physiology</b>	<b>QP</b>
<b>Botany</b>	<b>QK</b>	<b>Microbiology</b>	<b>QR</b>
<b>Zoology</b>	<b>QL</b>		

### **OTHER AREA LIBRARIES**

The indexes listed above reference many items that George Mason University and its libraries do not own. Fortunately, there are many useful information resources in the D.C. area. The Reference Desk offers assistance in searching other local libraries. Here is a list of area libraries that are open to students:

- Washington Research Library Consortium—WRLC (D.C. area University Libraries; holdings listed in the ALADIN database)
- National Agricultural Library in Beltsville
- U.S. Geological Survey Library in Reston
- National Library of Medicine in Bethesda
- Smithsonian Institution Libraries
- Library of Congress.
- EPA Headquarters Library

Fenwick Library also offers an Interlibrary Loan Service for faculty, staff and students. Use this service to borrow materials not owned by the library. Interlibrary Loan Request forms are available electronically on the Fenwick Library home page (<http://library.gmu.edu>).

### **INDIVIDUAL RESEARCH CONSULTATION SERVICE**

Reference Liaison Librarians at the Fenwick Library offer individualized research consultation services by appointment. To schedule an appointment about library research in the Life Sciences, contact Jeremy Garritano, Science Reference/Liaison Librarian at [jgarrita@gmu.edu](mailto:jgarrita@gmu.edu) or (703) 993-4175.

Created: J. Sturgis, 4/94  
Revised: J. Garritano, 1/02