

# Griffin (Donald R.) papers

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## **Table of Contents**

Summary Information	3
Biographical / Historical	
Scope and Contents	6
Arrangement	6
File Plan	
Administrative Information	7
Controlled Access Headings	8
Collection Inventory	8
Correspondence	8
Projects	50
Lab Books	55
Publications	57

## **Summary Information**

**Repository:** Rockefeller Archive Center

**Creator - aut:** Griffin, Donald R. (Donald Redfield)

**Title:** Donald R. Griffin papers, Rockefeller University Faculty

**ID:** FA164

**Date [inclusive]:** 1940-1984

**Date [bulk]:** 1940-1984

**Physical Description:** 12.8 Cubic Feet

**Physical Description:** 29 document boxes, including several oversize boxes.

Language of the

English

**Material:** 

Language of the

**English** 

**Material:** 

## **Preferred Citation**

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## **Biographical / Historical**

Donald Redfield Griffin (August 3, 1915 - November 7, 2003)

Donald Redfield Griffin was born in Southampton, Long Island, New York, the only child of Henry Ferrand Griffin and Mary Whitney Redfield Griffin. He attended Phillips Academy in Andover, Massachusetts, and subsequently earned Bachelor of Science (1938), Master's (1940), and Ph. D (1942) degrees from Harvard University. He married twice – to Ruth Castle in 1941 and to Jocelyn Crane (also a scientist) in December 1965. He had four children: Nancy, Janet, and twins Margaret and John. His hobby was sailing. Donald Griffin died November 7, 2003 in Lexington, Massachusetts.

While still in high school, Griffin began an extensive project banding bats in the American Northeast, enlisting friends and area residents to help, and banding over 16,000 bats between 1935 and 1938.

<sup>^</sup> Return to Table of Contents

(Carolyn A. Ristau, "Donald Redfield Griffin," Proceedings of the American Philosophical Society, Vol. 149, No. 3 (September 2005), p. 404.). Bat banding continued over the years, although less intensively. Some banding activities were based at Woods Hole Oceanographic Institution in Massachusetts where his uncle, Alfred C. Redfield, was affiliated (later Associate Director). Redfield was also chairman of Harvard's Division of Biology and was a significant influence on his nephew. Scientific interests ran in the Redfield family. Griffin's great-great grandfather was the first president of the American Association for the Advancement of Science; his great-grandfather was a botanist, and his grandfather was a nature photographer. (Roger Revelle, "Alfred C. Redfield: A Biographical Memoir," Washington, D.C.: National Academy of Sciences, 1995, p. 315.).

Career Although known primarily for studying bats, Griffin also researched bird navigation and orientation as well as animal thinking and behavior. While a student, Griffin learned to fly a plane and followed birds in order to better understand their navigation and homing techniques. In the 1930s, some of his bird observation work was conducted from Bowdoin Scientific Station on Kent Island in the Bay of Fundy, New Brunswick. In 1939, he received a summer fellowship at the Huyck Preserve in Rensselaerville, New York and later published journal articles based on his bat banding and research there. Also from the 1930s and into the 1950s, he banded and observed birds in connection with the O. L. Austin Ornithological Research Station in Wellfleet, Massachusetts.

After earning his doctorate, Griffin continued at Harvard as a Junior Fellow, teaching assistant in biology, and research associate in Harvard's Psycho-Acoustic Fatigue Laboratory which had United States military contracts to research ways of improving clothing for cold weather use, among other projects. Part of his government-funded work during the war related to communication equipment research and physiological optics.

In the summer of 1946, Griffin was appointed professor of zoology at Cornell University in Ithaca, New York. While there, he continued pursuing his special interests outside of the university laboratory. In addition to Cornell studies of birds on Bonaventure Island (Quebec, Canada), and Caribou, Maine, he and colleagues took trips to the Bowdoin Scientific Station's Kent Island facility in the Bay of Fundy, New Brunswick, Canada where they studied bird orientation and navigation. In 1952-53, Griffin, accompanied by photographer Dr. Guillermo Zuloaga of Creole Petroleum, studied acoustic orientation of oil birds in Venezuela.

Although Griffin's post-war research from 1947 through 1953 focused more on bird migration patterns, the use of radioactive isotopes in bird tracking, and the physiology of orientation than on bats, he also explored fish hearing and bat radar. Much of his research was conducted for the U.S. Office of Naval Research, primarily in summers, at the Arctic Research Laboratory in Point Barrow, Alaska, and for the Air Force's Arctic Aeromedical Laboratory at Ladd Air Force Base in Fairbanks, Alaska. His Air Force projects in Alaska included investigating the insulating qualities of small mammals' fur.

He returned to Harvard University as professor of zoology in fall 1953 where he was Chairman of the Biology Department 1962-1965. During his time at Harvard, he resumed his studies into bats' use of echolocation, the word coined by him, to determine the size, distance, and location of objects including prey. Outside of his university laboratory, Griffin continued independent research into bat navigation and bird orientation, often at Woods Hole Oceanographic Institution.

In the summer of 1965 he moved to Rockefeller Institute (now University) in New York City and served as their Director of the Institute of Research in Animal Behavior until 1969. His professorship at

Rockefeller University was concurrent with a Fellowship from New York Zoological Society. A major project of the NYZS involved periodic visits to the Beebe Tropical Research Station in Simla, Trinidad studying bat visual detection and echolocation and abilities of fish-catching bats. During the late 1960's and 1970's Griffin returned to studies of birds' ability to navigate in clouds when neither the sky nor ground was visible to them for orientation. In his later years at Rockefeller University, he spent more time concentrating on animal cognition and communication.

He retired from Rockefeller University in 1986, and was emeritus professor of animal behavior until his death. In retirement, he continued to research and write, and was an Associate of Zoology with Harvard's Concord Field Station of the Museum of Comparative Zoology.

Honors In 1952 Griffin was elected a Fellow of the American Academy of Arts and Sciences. He was also a fellow of the Animal Behavior Society and a Scientific Fellow of the New York Zoological Society. In December 1978, Griffin became President of the Harry Frank Guggenheim Foundation, and continued for four years. His professional organization affiliations included the American Academy of Arts and Sciences, American Ornithologists Union, American Philosophical Society, American Physiological Society, American Society of Mammalogists, and National Academy of Sciences

Publications Griffin published many articles and books, including Listening in the Dark (1958) for which he was awarded the Daniel Giraud Elliot Medal from the National Academy of Sciences; Echoes of Bats and Men (1959); Animal Structure and Function (1962); Bird Migration (1964) for which he won the Phi Beta Kappa Science Prize; The Question of Animal Awareness: Evolutionary Continuity of Mental Experience (1976, revised edition 1981), Animal Thinking (1984), and Animal Minds: Beyond Cognition to Consciousness (1992).

Scientific Significance In a January 16, 1954 letter to Scientific American, Griffin wrote, "The bulk of my research work has centered around the sensory physiology of animal orientation, and this interest grew out of boyhood leanings towards natural history." As a Harvard undergraduate, he and Robert Galambos began monitoring and recording bat sounds using technology developed by physicist G. W. Pierce and methods of Hallowell Davis. This research led to an understanding of echolocation—the term Griffin coined in 1944 to describe bats' ability to navigate around obstacles by using supersonic sounds and the feedback from those. Griffin banded bats into the 1950s which led to new discoveries in bat longevity and migration. He used kite-balloons and planes to study bat and bird navigation. His research into the acoustic orientation of bats was eventually useful in developing aids for blind people. After decades of studying animal navigation, primarily in bats and birds, in the 1970s he began to explore animal thought processes. His pioneering studies on animal communication, behavior in natural circumstances, and learning contributed to the new field of cognitive ethology—the ability of animals to consciously use sophisticated thinking and reasoning in interactions with their environment, humans, and other animals.

^ Return to Table of Contents

The majority of the material in this collection is related to Griffin's work as a scientist between the years 1930-1986 and consists of correspondence, records of project activities, lab books, and publications. Some correspondence is in foreign languages, including French, German, and Spanish.

Items of special interest include:

Correspondence with Paul Ehrlich, author of "The Population Bomb";

Correspondence with psychologist B. F. Skinner;

Correspondence with Nobel Prize co-recipients Karl Von Frisch, Konrad Lorenz, and Nikolaas Tinbergen;

A letter to Senator McMahon concerning the use of Atomic material and Manhattan Project;

Support for a fellow scientist, Marcus Singer, under investigation by the U.S. House of Representatives Committee on Un-American Activities;

Correspondence with various manufacturers and scientists about development of specialized equipment-including early computers--to study, record, and film aspects of Griffin's research.

Acronym Key IRAB: Institute of Research in Animal Behavior (RU). NYZS: New York Zoological Society. RU: Rockefeller University. WHOI: Woods Hole Oceanographic Institution.

^ Return to Table of Contents

## Arrangement

The Griffin papers are arranged in four series: Series 1 - Correspondence. Series 2 - Projects. Series 3 - Lab Books. Series 4 – Publications.

^ Return to Table of Contents

## File Plan

Former Classification: I 450 G875 and I 450 G875-U.

## **Administrative Information**

## **Publication Statement**

Rockefeller Archive Center

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## **Conditions Governing Access**

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## **Processing Information**

The collection was partially processed by Alexandra Ward, Rockefeller Archive Center summer intern, August 2012, and Nancy Adgent, RAC archivist, completed advanced processing and finding aid preparation August 2015.

## **Immediate Source of Acquisition**

Material was donated by the family of Donald R. Griffin, and accessioned by RAC as 1990:008.

^ Return to Table of Contents

## **Controlled Access Headings**

- Biology -- Research
- Life sciences
- Zoology
- Animal behavior
- Cell and biomolecular sciences
- Rockefeller University

## **Collection Inventory**

## Correspondence

## **Scope and Contents**

Items include letters to and from other scientists, colleagues, and friends; questions from the general public; requests for peer review of articles; and a few letters from family members. Correspondence with former students and fellow scientists often includes tidbits regarding experiments or projects as well as shared findings. Subject matter ranges from atomic bombs to animal pathology and psychological abilities to employment recommendations for former students and colleagues. A few candid photographs and machine print outs were attached to correspondence and have been left with the correspondence rather than separating such a small number of items and possibly losing valuable context.

## Arrangement

Alphabetical by name of correspondent.

Title/Description	Instances	
Δ	box 1	folder 1

## **Scope and Contents**

Abbott, William S. - advertisement. Adler, Kraig - Cornell University. Adye, Anne Aeschlimann (Mrs. John) - England; bat conditioning . Airapetianz, Er. Sh. - Leningrad University; see also Konstantinov. Alba, Aurelio Malaga - Oficina Sanitaria PanAmericana, Harold Trapido; bats. Alcock, John - Harvard University; Beebe Tropical Station, Simla. Aldrich, Frank W. - bat blood . Alexander, Richard D. - University of Michigan; bird direction. Ali, M. A. - Universite de Montreal; sensory ecology. Allan, Philip F. - University of Michigan; Cape Cod; deer mice. Allen, A. A. - Cornell University. Allen, Cynthia - Harvard University. Allen, Francis H. - Houghton Mifflin; Smithsonian Institution; A. Wetmore. Allen, Glover M. - Museum of Comparative Zoology, Harvard; Journal of Mammalogy. Allen, William H. - Maxwell Air Force Base; migrating

bird flight paths. Allison, V. C. - Triumph Explosives. Altes, Richard A. - Science Applications, Inc.; University of Rochester; bat signals; NASA. Altmann, Stuart - Yerkes Regional Primate Center, Emory University. American Racing Pigeon News - reprints. American Society of Mammalogists - National Zoological Park; U.S. Dept. Agriculture; W. C. Henderson; Science Service; William T. Shaw. Ames, Edward - Wave Hill Center for Environmental Studies. Anderson, A. C. - Canada; bats. Anderson, Anders H. - bat echoes. Anderson, John - Cornell University. Archibald, John G. - animal directional sense. Arnsten, Amy - Brown University; rat communication. Aschoff, Jurgen -Max Planck Institute. Austin, Oliver L., Jr. - Florida State Museum; The Auk, Journal of Ornithology; Nuttall Club. Avery, Michael - North Dakota State University; Lewis Oring; bird auditory sensitivity. AVM Instrument Company - radio telemetry.

Able, Kenneth P. box 1 folder 2

## **Scope and Contents**

State University of New York, Albany; tracking blindfolded birds; Wallops Island

Ba-Be box 1 folder 3

## **Scope and Contents**

Bels, P. J. - bat banders in Canada. Ben-Dak, Joseph D. -Janna Lipmanova; Israel; arms control; peace; Palestine; sociology. Bendell, J. F. - Queen's University. Bennett, Glenn E. - Microwave Electronics; pulse compression radar. Benson, Seth - University of California, Berkeley; live bat supplier. Berlin, Charles - Louisiana State University; Communication Sciences Laboratory. Berlinski, David - Columbia University. Bernhard, C. G. - Karolinska Institutet; Beebe Tropical Station; . Bernhard, Silke - Dahlem Konferenzen. Berry, Pat Hoge - UCLA; Queensland; Chillagoe; bat sounds. Bertin, J. - Museum National D'Histoire Naturelle, France; . Bevan, William - Emory University. - . Biemiller, Reynard - Rockefeller University Press. Bigelow, Henry - Museum of Comparative Zoology, Harvard University. Billings, Susan M. - Harvard Medical School; bird navigation; Bay of Fundy; petrels; Trinidad; radio tracking. Bingman, Verner - State University of New York, Albany; sparrow orientation. Biraud, Yvon - Infrarouge Spatial Observatoire, France; Jim Simmons. Bishop, David W. - University of Massachusetts, Amherst; Howard Lovering. Bizony, Michael T. - Harvard University; bird navigation. Blackmore, Michael - Devon Speleological Society, London; bat echo-location. Blake, Charlie -Massachusetts Institute of Technology; radar and birds. Bloch, Don - Denver. Blokpoel, Hans - Canadian Wildlife Service; birds and radar. Blood, Brad R. - Natural History Museum, Los Angeles; bats. Boeing Airplane Co. - Kenneth Hammerle; bat echo ranging. Boell, E. J. - Yale University;

Andrew Meyerreicks. Bole, Benjamin P., Jr. - Cleveland Museum of Natural History. Bonaccorso, Frank - University of Florida; bat banding and tattooing; Panama. Bonner, John T. - Princeton University; Stony Ford Center; birds and radar. Boring, Edwin G. - Harvard University Psychological Laboratory. Borror, Donald J. - Ohio State University; bird auditory localization. Boston Society of Natural History -Clinton V. MacCoy; Bradford Washburn; Arthur Svihla; New England Museum of Natural History. Bottome, Peter -Harvard University. Bourliere, F. - Faculte de Medecine de Paris; physiological telemetry. Bourne, Geoffrey H. - Yerkes Primate Research Center; bat longevity. Bovee, Harley H. -University of Washington; bat eradication. Bowers, Michael - Miami University, Ohio; bat feeding, care. - . Bradbury, Jack W. - University of California, San Diego; Simla; Beebe Tropical Research Station; Edmund Niles Huyck Preserve; Cornell University; Millbrook; Robert Dalgleish; caves. Bradshaw, Paul - bat keeping; Adams Bat Bomb. Brantley, James Q. - Cornell Aeronautical Lab.; radar and bats; Doppler effect. Braun, I. H. - Film Associates; bat echolocation.

Bi-Bo box 1 folder 4

## **Scope and Contents**

Biemiller, Reynard - Rockefeller University Press. Bigelow, Henry - Museum of Comparative Zoology, Harvard University. Billings, Susan M. - Harvard Medical School; bird navigation; Bay of Fundy; petrels; Trinidad; radio tracking. Bingman, Verner - State University of New York, Albany; sparrow orientation. Biraud, Yvon - Infrarouge Spatial Observatoire, France; Jim Simmons. Bishop, David W. - University of Massachusetts, Amherst; Howard Lovering. Bizony, Michael T. - Harvard University; bird navigation. Blackmore, Michael - Devon Speleological Society, London; bat echo-location. Blake, Charlie -Massachusetts Institute of Technology; radar and birds. Bloch, Don - Denver. Blokpoel, Hans - Canadian Wildlife Service; birds and radar. Blood, Brad R. - Natural History Museum, Los Angeles; bats. Boeing Airplane Co. - Kenneth Hammerle; bat echo ranging. Boell, E. J. - Yale University; Andrew Meyerreicks. Bole, Benjamin P., Jr. - Cleveland Museum of Natural History. Bonaccorso, Frank - University of Florida; bat banding and tattooing; Panama. Bonner, John T. - Princeton University; Stony Ford Center; birds and radar. Boring, Edwin G. - Harvard University Psychological Laboratory. Borror, Donald J. - Ohio State University; bird auditory localization. Boston Society of Natural History -Clinton V. MacCoy; Bradford Washburn; Arthur Svihla; New England Museum of Natural History. Bottome, Peter -Harvard University. Bourliere, F. - Faculte de Medecine de Paris; physiological telemetry. Bourne, Geoffrey H. - Yerkes Primate Research Center; bat longevity. Bovee, Harley H. -

University of Washington; bat eradication. Bowers, Michael - Miami University, Ohio; bat feeding, care.

Bra-Bru box 1 folder 5

## **Scope and Contents**

Bradbury, Jack W. - University of California, San Diego; Simla; Beebe Tropical Research Station; Edmund Niles Huyck Preserve; Cornell University; Millbrook; Robert Dalgleish; caves. Bradshaw, Paul - bat keeping; Adams Bat Bomb. Brantley, James Q. - Cornell Aeronautical Lab.; radar and bats; Doppler effect. Braun, I. H. -Film Associates; bat echolocation. Brebbia, D. Robert -Rockland State Hospital; Neuro-Metabolic Laboratory; bat physiology. Breder, C. M., Jr. - American Museum of Natural History. Brender, Ronald - bat echolocation; sound recording equipment. Brethour, Leslie - birds; Canada. Brickley, Brooks F. - bats in house. Bridgman, Percy Williams (memorial) - Harvard University . Briggs, Shirley A. - Mark Twain misquote. Brines, Michael L. -Rockefeller University; bees; skylight polarization patterns; see also Publications by Others; Journal of Experimental Biology; . British Broadcasting Corporation (BBC) -Gordon R. Taylor; Horizon program participation; bat film. Brosset, A. - Museum National d'Histoire Naturelle; echolocation. Broun, Maurice - birds in clouds. Brown, Patricia - UCLA; bat and bird film; Panama; Trinidad. Browne and Nichols School - . Bruderer, Bruno - Zoologise Astalt der Universitat; birds and radar. Brues, Alice - Aero-Medical Lab, Wright Field.

Buc-But box 1 folder 6

#### **Scope and Contents**

Buchheister, Carl W. - National Audubon Society. Buchler, Edward R. - ORI, Inc.; University of Maryland; bat flight and foraging; Millbrook. Buckley, Stephen A. - University of New Hampshire; bat echolocation and blind people. Buffalo Museum of Science - G. Bernard Peterson; shrews. Bullock, Ted H. - University of California, San Diego; . Bumeder, George - bird tracking. Bundy, Stephen - summer internship; Groton School. Burda, Hynek - Czechoslovak Academy of Science. Burghardt, Gordon M. - University of Tennessee. Burkhardt, D. - Universitat Regensburg; bat film. Burnett, Miss Frances L. - Mexican bats. Burt, William H. - Museum of Zoology; bat banding. Burton, Tom - bird migration. Buschhorn, Harold - bat purchase. Busnel, Marie-Claire - Universite Rene Descartes; Fyssen Foundation; insect sound . Busnel, Rene Guy - Institut de Recherches Agronomique; Hubert Frings. Butler, E. G. - Princeton University. Butler, Karl D. - Rotary Club. Butterworth, J. Scott - electrocardiograms.

Barnstable Yacht Club box 1 folder 7

Howard, John G.; Hoxie; Donald Wilson, boat builder

Benchley, Nathaniel G. box 1 folder 8

## **Scope and Contents**

Phillips Exeter Academy

Bloedel, Prentice II box 1 folder 9

## **Scope and Contents**

Arizona-Sonora Desert Museum; bats; Panama; Millbrook;

Bowles, John B. box 1 folder 10

#### **Scope and Contents**

Central College; bat detectors; Yucatan, Mexico

Ca-Cl box 2 folder 11

## **Scope and Contents**

Cagle, Fred R. - Southern Illinois Normal University; bat marking. Calderbank, G. - Minister of Agriculture, Bolivia; tracking bats; Trinidad. Caldwell, Morton - University of West Virginia Medical School; McCue-Bertolini bat detector; Covalt-Dunning. Cannon, Barbara - University of Stockholm; intraintestinal metabolism. Caplan, Janet - interview, article about Griffin. Capranica, Robert -Cornell University Langmuir Laboratory; recording sounds. Cardone, V. - New York University. Carpenter, Roger -San Diego State University; bats, flying foxes; Carl A. Richmond; wind tunnel. Carroll, Capt. William - Holland; U.S. Army; P. J. Bels; H. C. Koning. Carter, George F. - comments on bat article. Carter, Howard - University of Chicago; muscles while flying. Castle, Edward S. -Harvard University; M. Bizony; fish research. CBS News - Burton Benjamin; film of program. Ceccaldi, H. J. -Laboratoire de Biochimie et Ecologie, Marseille, France; invertebrate biochemistry. Chadwick, Leigh E. "Chad" translator of von Frisch book. Chandler, Caroline - obituary. Chandrashekaran, M. K. - School of Biological Sciences, India; bat behavior. Chapman, Marjorie - Australia. Chopra, Kuldip P. - Virginia Journal of Science. Christensen, Charles F. - National Geographic film re bats. Christman, Steven P. - U.S. Fish and Wildlife Service, FL; bats. Chudy, J. David - bat pulses; electronic equipment; Africa; J. D. Pye; Leslie Kay. Cisler, David - Wright State University; bats. Clayton, Dale - Tri-Data Biology House; pinlights to see bats.

Co-Cu box 2 folder 12

Cobb, Stanley - Narragansett Marine Laboratory. Coble, Jerry - University of Tennessee Space Institute; owl sound research. Cochran, William W. - Illinois Institute of Natural Resources; bird navigation. Cocke, William A. - bats in house. Cockrum, E. Lendell - University of Arizona; bat homing. Coggeshall, L. T. - University of Chicago; Theodore Bullock; Howard Adelmann. Cohen, Elias - Bat Banding techniques; mines. Cohen, Jerome - Northwestern University Medical School; blindness, echolocation. Cohen, Melvin J. - University of Oregon; Harvard University; neuro and sensory physiology. Coles, Richard W. - Washington University; Harvard University; Yucatan; Airstream trailer; Doug Quine. Columbia University - wind tunnel equipment; Herman Galberd. Comins, Derek M. - Kaffrarian Museum, South Africa; . Cone, Clarence D. - Eastern Virginia Medical School; bird navigation in clouds. Cook, Marion - Ooltewah, TN high school; bats. Cook, Richard K. - National Bureau of Standards; acoustics and bird navigation; Woods Hole. Cotzin, Milton - Cornell University; Wesleyan University; psychology; Michael Supa; Karl Dallenbach; navigation of blind people. Coudeyre, Fae-Balle - speech reproduction. Craig, Wallace - bird head position. Creaser, E. P. - Hofstra College; Bermuda; lobsters. Croze, Harvey - Simla; Oxford University; crow search patterns; Serengeti National Park, Tanzania; elephant behavior; Peter Marler; Roger Payne; George Schaller; New York Zoological Society. Crozier, William John - obituary draft; Harvard University. Crumb, A. S. - bats in house. Cullen, J. M. - University of Oxford; bat sounds; Jack Bradbury; Trinidad. Curien, M. Hubert - Centre National de la Recherches Scientifique (CNRS); data gathering equipment. Curtis, Robin L. - New York University College of Medicine; auditory equipment. Cushing, D. H. - Ministry of Agriculture, Fisheries, and Food, England; fish echo location. Cushing, John - CalTech; immunochemistry. Cutler, Preston S. - Center for Advanced Study in the Behavioral Sciences.

Cornell University - Zoology Department - General

box 2

folder 13

### **Scope and Contents**

Laboratory of Ornithology; Dale Corson; Paul H. Geiger, University of Michigan; Schneiderman; Van der Kloot; Adelman; Singer; Blight; Barber; Paul M. O'Leary; Hallowell Davis; Robert Galambos; Arthur Schlesinger, Jr.; John Kelleher; Stromberg-Carlson Company; C. W. Torengren Co.; Trails End Zoo; Teiner Engineering Corp.;

Alan Van Poznak; Maxine Moore

Cornell University - Zoology Department - Projects

box 2

folder 14

Office of Naval Research; Arctic Research Laboratory; bat radar; Etna School; Raymond Hock; Navy Underwater Sound Laboratory; Bonaventure Island Bird Sanctuary; Massa Laboratory; Brush Development Company; General Electric; Perkin-Elmer Corp.; Kalbfell Laboratories; Baird Associates; Teiner Engineering; Polaroid Corp.; University of Michigan; Paul Geiger; Philadelphia Seed Co.; Bell Telephone Laboratories; Francis M. Wiener; Atomic Energy Commission; Photovolt Corp.; Veterans Administration; Canada Department of Mines and Resources; Machlett and Son

Curtis, William Edgar box 2 folder 15

Scope and Contents

Allegheny College; echolocation; owl vision; Don and Maggie Thompson

Curtis, William Edgar box 2 folder 15a

Conditions Governing Access:
Conditions Governing Access

D box 2 folder 16

## **Scope and Contents**

Restricted from scholarly access

Daan, Serge - International Bat Research Conference, Holland. Dalland, John - Wake Forest College; neurophysiology. Daniels, Charles F. - animal skins; Phillips Academy. Davenport, D. - Arthur Redfield. Davis, Bernard D. - Harvard Medical School; behavioral genetics; Woods Hole. Davis, David E. - Rockefeller Foundation-International Health Division: Brazil: birds. bats; U.S. Public Health Service; University of Chicago; Montana State University; Harvard University; Huyck Preserve. Davis, Flora - animal communication book. Davis, Hallowell - Central Institute for the Deaf: animal hearing thresholds. Davis, Joseph A., Jr. - New York Zoological Society; Rockefeller University; see also Harvard Biological Laboratories; Miss Duplaix. Davis, Michael - Cambridge University; Rockefeller Foundation; Roderick Suthers; Harold Trapido; bat sensory channels. Davis, Richard - Johns Hopkins University; bat sound recording equipment. Davis, Richard B. - Texas A and M; portable bat detector. Davis, Russell - University of Arizona; bat echolocation. Davis, W. B. - fowling nets. Dawson, William R. - University of Michigan; New Guinea; Trinidad. Day, G. R - Meteorological Office, England; bird orientation; Office of Naval Research. Day, Max F. -Australia; Washington University; bee and bird navigation. Deboutteville, Claude Delamare - Museum National

d'Histoire Naturelle; France; bats; fish. Decker, Gary -Rockefeller University applicant. Decu, Vasile - Institutul de Speologie; Romania; LaSalle College. De Gehtt, V. J. - New York State University-Potsdam; rodent ultrasound. Del Vecchio, Philip J. - Paterson Museum; bird migration; New York Zoological Society. DeSante, David F. - Stanford University; behavioral ecology. Dethier, Vincent - Princeton University; International Ethological Congress. Devlin, Joseph M. - University of Pennsylvania School of Medicine; bat flight and feeding. Devore, Russell - West Virginia University; bird migration. deVries, H. L. - fish inner ear; psychology. Dewsbury, Donald A. - University of Florida; animal behavior; University of Chicago Press. Dice, Lee R. - University of Michigan; sound equipment; Parameters Inc.; Roger Amorosi. Diercks, K. J. - University of Texas-Austin; bat echolocation; Lauren Hutton; animal sonar; Navy. Dilger, William C. - Cornell University; film; parrots. Dill, David Bruce - The Physiologist; University of Nevada. Dinsmore, James - University of Wisconsin; bird capture, transportation; Trinidad. Dorst, Jean - Museum National d'Histoire Naturelle-France. Douglass, John F. - Harvard College; radar of bird migration; Millbrook, New York. Doutt, J. Kenneth - Carnegie Museum; bat skins. Downes, M. C. - Papua, New Guinea Dept. of Agriculture; tracking crocodiles. Drake, V.A. - CSIRO; Australia; bird migration. Drury, William - Massachusetts Audubon Society; bird navigation; Tim Williams; Woods Hole. Duckman, Charles - bat food. Duplaix, Nicole - otter behavior; Faculte de Medecine de Paris; Joseph A. Davis. Durbin, Peter -Thomas Barr; bat hibernation; caves. Duryee, William R. - Carnegie Institution; Society of General Physiologists; Cornell University. Dwinell, H. A. - Vermont Department of Agriculture; bats in house. Dwyer, Peter D. - University of Queensland-Australia; bat migration. Dyason, Diana -University of Melbourne; Australia; bat banding.

Davis, Wayne H.	box 2	folder 17	
Scope and Contents			
University of Minnesota; Lincoln Lab, MIT; University of Kentucky; Mammoth Cave; bat banding, vision, homing; Beebe Research Station			
de Bellard Pietri, Eugenio	box 2	folder 18	
Scope and Contents			
bat echolocation; birds; National Speleological Society of Spain			
De Coursey, Patricia and George	box 2	folder 19	

folder 20

## **Scope and Contents**

bats; squirrels; Harvard University; University of

Wisconsin; Trinidad

Dijkgraaf, Sven box 3

**Scope and Contents** 

der Rijks Universiteit, Holland; bat sound and navigation; American Philosophical Society; Spallanzani; von Frisch

Dunning, Dorothy box 3 folder 21

**Scope and Contents** 

Tufts University; Trinidad; bat lab equipment; Max Planck Institut; West Virginia University; Millbrook; Paul Ehrlich; Jack Bradbury; Peter Marler; Harvard University; Duke University; Virginia Polytechnic; Katherine Ralls; Edwin

Gould

E box 3 folder 22

## **Scope and Contents**

Eads, Richard B. - Texas Dept. of Health; bat banding; rabies. East Meadow Public Library - ultrasound to repel birds; Loretta Kelleher. Eaton, Steve - bird sensory structure. Eddy, Garrett - U.S. Navy; bird homing; Ellie D'Arms; balloon observations; Navy; Japan; radar. Edelstam, Carl - Swedish Natural History Museum; navigation; Edwin Gould; . Edgerton, Harold E. photography equipment; filming bats; MIT; Trinidad; Panama; Arthur Palme. Ehrenfeld, David W. - University of Florida; turtle orientation; Rutgers University; Barnard College . Ehrlich, Paul R. - butterfly genetics; Beebe Station; New York Zoological Society; Stanford University; . Einramhof, Franz - Austria; bat ultrasound. Eisentraut, Dr. M. - Zoologisches Forschungsinstitut and Museum; Germany; bat banding, homing. Eiskamp, Edward - caves in New York; Eveready batteries; J. M. Mathes Advertising Co.; National Carbon Company. ElectroSignal Laboratory - equipment; smoke detectors. Elishewitz, Harold - bat parasites; Chicago Medical School; caves in Venezuela. Ellins, Stuart R. - University of Delaware; echolocation. Elliott, Robert D. - American Institute of Aerological Research; bird migration. Elwood, R. W. - Queen's University of Belfast, Ireland; animal communication. Emerson, Alfred - University of Chicago. Emlen, John T. - bird navigation; University of Wisconsin. Endler, John - Museum of Vertebrate Zoology; University of California-Berkeley; animal orientation. Energized Materials Corp. - Q-Energy Film; animal pain relief; W. R. Schumacher. Epstein, Samuel - Spallanzani experiments. Erulkar, S. D. - spatial localization; University of Pennsylvania Medical School. Esch, Harald - Notre

Dame University; bees and magnetic field. Evans, L. T. - Montana State University. Evans, Rand B. - Wright State University; bat sounds. Evapograph Consultants - Nicholas Rosner; National Oceanic and Atmospheric Administration. Everest, F. Alton - Moody Institute of Science; bat film. Ewer, R. F. "Griff" - University of Ghana; bats; nectar plants; Nicole Duplaix-Hall. Ewing, Gifford C. - Woods Hole Oceanographic Institution; bird migration. Ewing, Josephine - employment.

Emlen, Stephen box 3 folder 23

## **Scope and Contents**

Cornell University; kytoon equipment; bird tracking, orientation; William Keeton

Emsley, Michael G. box 3 folder 24

## **Scope and Contents**

New York Zoological Society; Trinidad; Beebe Tropical Research Station; Academy of Natural Sciences of Philadelphia;

F box 3 folder 25

## **Scope and Contents**

Fairley, J. S. - University College, Ireland; . Faller, Alan J. -University of Maryland; air flow and birds. Farnell, Frederic James - bats in house. Farner, Donald S. - bird physiology; State College of Washington. Fass, George - films of bats. Faust, R. - Zoologischer Garten; Germany; bat film. Fenn, Roger C. - Fenn School; Bird banding. Ferdinand, Roun - Denmark; Sch. Kjeldsgarde. Fischer, Hans - Universitat Freiburg; Germany; bat larynx. Fischer, Richard B. - Cornell University; World Book Encyclopedia; textbooks. Fish, Marie P. - University of Rhode Island; fish sounds; Office of Naval Research. Fish, William R. - bird isolation chambers; Peter Marler. Fisk, Dr. - reprint request. Fitch, Henry S. -University of Kansas; radioactive tracking of small animals. Fitzgerald, Alan S. - photoelectric instrument. Fitzpatrick, James L. G. - bird flight metabolism; films. Fleming, Bob (and parents) - Nepal; ecology. Fletcher, Laurence B. -Massachusetts Trustees of Public Reservations; Reprints; bird navigation. Flock, Warren L. - radar; University of Colorado; Harvey Savely; Air Force Office of Scientific Research. Forbes, Alexander - U.S. Navy Hydrographic Office. Foreman, G. Lawrence - Rockford college; Bat Stomachs. Foster, Leonard - bats in house; Nova Scotia. Fowler, James A. - George Washington University; bats; National Speleological Society. Fox, Adrian C. - cowbird homing . Francis, Raymond - Williams College; ethology; bird migration; Bowdoin Scientific Station; Kings College; Mt. Desert Biological Laboratory; Woods Hole. Frazer, Trumbull - Yale University; bat migration; bat banding.

Freedman, Sandor J. - ethology; bird homing; Peter Klopfer. Fremer, Glen - Stanford University; bat anatomy; Ada Pye; James Simmons. French, Herbert E. - animal combat; Holiday magazine. Frick, Henry Clay, II - primate ethology; George Scott; Woods Hole Marine Biological Laboratory. Friedhoff, Richard M. - evolution. Friend, Judith - Harvard University; animal physiology; see Lab Books also. Frundt, Hans - echolocation; Institut fur Biophysik and Biotechnik-Germany. Fry, Varian - cat and dog homing; Reader's Digest. Fulcher, W. W. - Murphy High School; reprint request. Fur-Fish-Game, Harding's Magazine - ad by Griffin.

Fenton, M. Brock box 3 folder 26

## **Scope and Contents**

bats; equipment; Royal Ontario Museum; Carleton University; Edward Buchler; J. R. Roberts; Jim Simmons; Dody Dunning; York University-Canada; Millbrook

Fitzgerald, Vera Jean box 3 folder 27

## **Scope and Contents**

rats; beavers; cognitive ethology; University of Chicago; William Wimsatt; Millbrook, NY; U.S. Forest Service; South Carolina: Ross Kiester

Folk, G. Edgar, Jr. and Sr. box 3 folder 28

## **Scope and Contents**

Bowdoin College; Kent Island; Salisbury School; bats; University of Iowa; State University of Iowa; Bowdoin Scientific Station; Harvard Fatigue Laboratory; Richard

Penney; H. T. Hammel; Ray Hock

Fulbright Scholarship; Cambridge University box 3 folder 29

#### **Scope and Contents**

University of Cambridge; W. J. Sartain; McGeorge Bundy; H. M. Taylor; J. Gray; J. T. Saunders

G box 4 folder 30

#### **Scope and Contents**

Gaisler, Jud - Czechoslovak Academy of Science. Galler, Sidney R. - NASA; Smithsonian Institution; bird navigation; wildlife monitoring; Woods Hole. Gardner, George - bat detector equipment. Gardner, R. Allen and B. T. (Trixie) - University of Nevada; AAAS. Garnecky, Thomas A. - radar. Garwin, Richard L. - Watson Research Center; IBM; Peter Tyack; Robert Seyfarth; Dorothy Cheney; James L. Simmons; James L. Gould; cognitive ethology. Gaskell, Philip - King's College; birds; blind flying. Gaur, B.S. - University of Jodhpur, India; desert bats. Gehring, Walter

- University of Zurich; bats; radar; birds; Harvey Savely; Air Force Office of Scientific Research. Gershinowitz, Harold - Rockefeller University; Klausner. Geyer, Lynette A. - bat detector; Rutgers University; equipment. Ghose, S. C. - Royal Air Force; Ardente Otological Research Unit; bat echolocation; H. J. Round. Giacalone-Madden, Jacalyn - PhD committee; CUNY. Gibbons, J. Whitfield - Savannah River Ecology Lab; bats. Gibbs, Sarah Poole "Sally" - poetry; McGill University. Gilbert, Perry W. -Mote Marine Laboratory. Giordano, Antonio - Museo civico dei Storia Naturala-Italy; bat sound frequency; Natura. Glass, Brian - Oklahoma State University; bat migration. Gleason, Mabel R. - reprint request. Gleitman, Henry -University of Pennsylvania; Science; blind echolocation; Barbara Landau. Glickenhaus, Lee - bat information. Gobert, Andrew - Cornell University; pigeons; George Feliu. Goldman, Peter - Ohio State University; bird song recognition. Goldsmith, Timothy H. - Yale University; birds and ultraviolet light. Goodwin, George G. - American Museum of Natural History; mice skulls. Goodwin, Melvin E. - Emory University; bat sounds. Gordils, Elisa - bats as pets. Gordon, Donald A. - University of Illinois; bird navigation. Gormley, Gerard J. - orcas. Gould, Jim -Princeton University; California Institute of Technology; bird magnetic sensitivity; Jocelyn Crane. Graber, Richard R. - Illinois Natural History Survey. Granath, L. P. - Worcester Polytechnical Institute; sound recording equipment. Gravith, Roryman? - Karolinska Institutet. Graybiel, Ashton -U.S. Naval Aerospace Medical Institute; sensitivity to acceleration. Great Bear Foundation - Olsen, Lance; animal thinking. Green, Robert M. - Harvard Medical Colloquium. Greenbaum, Joseph J. - Wesleyan University; bat habit retention. Greene, Jerome D. - bat auditory faculties. Greenhall, Arthur M. - Portland Zoological Park; Royal Victoria Institute, Trinidad; Alvin Novick; Panama. Greenwood, George - bat navigation; Panama. Gressley, Gene M. - University of Wyoming archives. Griffin, William Alex - cousin?. Griffiths, Thomas - bat species; University of Massachusetts. Griswold, Mrs. Ely (Edith Caldwell) - moles and mice problems. Groshek, Matt - bat recording equipment. Gruschka, H. D. - University of Tennessee Space Institute; owl sounds. Gunderson, Harvey L. - reprint request . Gunn, W. W. H. - Canadian Wildlife Service; birds and wind turbulence. Gurnee, Russell H. - Explorers Club. Guterman, Leslie - Yale University. Guthrie, Mary J. - University of Missouri; bat banding. Guttman, Norman - Indiana University; animals and magnetic field; shock anticipation.

Galambos, Robert box 4 folder 31

### **Scope and Contents**

University of California, San Diego; Army Medical Center; Harvard University Psycho-Acoustic Laboratory; Emory University; bat banding, navigation; Woods Hole; Alan Grinnell; bird tracking; Steven Hillyard; Guggenheim Foundation; Association for Scientific Workers; Barry Commoner; Walter Reed Army Institute; Schwartzkopff;

Jack Sargent;

box 4 folder 32 Gates, William H. **Scope and Contents** Louisiana State University; caves; supplying bats box 4 folder 33 Gauthreaux, Sidney A. **Scope and Contents** Clemson University; University of Georgia; Louisiana State University; bird migration; radar; Kenneth Able Gosline, William A. box 4 folder 34 **Scope and Contents** University of Hawaii; Woods Hole; Phillips Academy; bird banding; fish; Brazil; Natural History Museum, Stanford; John Hill Gould, Edwin box 4 folder 35 **Scope and Contents** Cornell University; Army Chemical Center; Woods Hole; turtles; Tulane University; Johns Hopkins University; Beebe Tropical Station; Sigma Xi; R. Mertens; George Bartholomew; U.S. Army; Panama; Harold Trapido; box 4 folder 36 Grant, Harold J., Jr. **Scope and Contents** Beebe Tropical Research Station; Trinidad; American Museum of Natural History; University of Miami; Philadelphia Academy Graue, Louis C. box 4 folder 37 **Scope and Contents** Sacramento State College; bird navigation; Bowling Green State University Griffin, Donald R. - Family box 4 folder 38 **Scope and Contents** Henry and Mary (parents); Ruth (1st wife); John Hill (cousin); Alfred Redfield (uncle); Mrs. Robert S. Redfield (grandmother)

box 4

folder 39

American Academy of Arts and Sciences; American Ornithologists" Union; American Philosophical Society; American Physiological Society; American Society of Naturalists; Explorers Club; Gamma Alpha; National Speleological Society; Sigma Xi; Society of General Physiologists; Society for Neuroscience

Griffin, Donald R. - Miscellaneous

box 4

folder 40

## **Scope and Contents**

Guggenheim Fellowship; awards; Committee on Scientific Research Personnel; War Manpower Commission; photograph

Grinnell, Alan D.

box 4

folder 41

## **Scope and Contents**

National Institute of Health; bat echolocation; Harvard University; Woods Hole; University College, London; UCLA; Alpha Helix Expedition; Panama; Norman Guttman; Theodore Bullock; Western Reserve University; U.S. Public Health Service; University of Texas;

Grubb, Thomas C., Jr.

box 4

folder 42

## **Scope and Contents**

Rutgers University; bird navigation; Kent Island; Beebe Tropical Station; University of Wisconsin; Sigma Xi; John Emlen

Ha

box 5

folder 43

## **Scope and Contents**

Hafter, Ervin R. - University of California, Berkeley; animal sonar; Acoustical Society. Hailman, Jack P. -University of Wisconsin; bird vision. Hall, George C. - bats in Iowa. Hall, Jens G. - Norway; bat hearing; University of Oslo. Halliman, James E. - Naval Air Missile Test Center; bats, supersonic pulses. Hamburger, Viktor -Washington University; bat film. Hamilton, William H., III - Bird orientation; University of California, Davis; . Hamilton, W. J., Jr. - Cornell University Zoological Dept.; Huyck Preserve; bat droppings. Hamilton-Smith, Elery -Bats; Australia Division of Wildlife Research. Hammel, Harold Theodore (Ted) - Arctic Institute; University of Pennsylvania; Air Force; Cornell University; heat transfer through fur; see Projects-Arctic. Handy, Ned - Milton Academy; bat photos. Harbold, Mary - Temple University; General Motors; bat echolocation measurement. Hardy, James D. - Cornell University Medical College; Ted

Hammel; Arctic Aeromedical Laboratory. Hardy, M. G. - bats; University of Reading, England. Harlow, Harry F. - University of Arizona; primate behavior; Guggenheim. Harrington, Bob - University of New Hampshire; bats. Harris, Norman D. - Boston Museum of Science. Harris, Ron - State University of New York, Stony Brook; roach neurophysiology. Harrisson, Tom and Barbara - Cornell University. Hart, Ron W. - Ohio State University; bat, bird longevity. Hartline, H. K. - University of Pennsylvania; spectral energy distribution. Hartline, Peter H. - University of Illinois; Ann Hurley; University of California, San Diego; snake vision. Hartman, Carl - Ortho Research Laboratories; American Society of Zoologists; Ernst Mayr; William Rowan; Henry Yeagley. Hartridge, H. - Medical College of St. Bartholomew's Hospital, Cambridge; bat sounds. Haskell, P. T. - Anti-Locust Research Center, London; bat sound pulses. Haskins Laboratories - Alvin M. Liberman; supersonic sound equipment; Paul Zahl; aids for blind people; military. Hasler, Arthur D. - bat supersonic object avoidance; University of Wisconsin; bats; bees; Von Frisch; American Philosophical Society Magellan Prize; F. P. Moehres. Hatchett, Roy A. - bat navigation; Zoological Society. Hatt, Robert T. - Cranbrook Institute of Science; bats in New Jersey. Hayes, Samuel P. - Perkins Institution; Massachusetts School for the Blind; blindness in humans. Hayman, D. - poem from The Atlantic. Hays, Helen - bird tracking; equipment; American Museum of Natural History; Long Island.

He- Hi box 5 folder 44

#### **Scope and Contents**

Healea, Monica - Vassar College; bats, supersonics. Hecht, Max - Queens College. Henson, O. W., Jr. - bat tuning, audiograms; Yale University; George Pollak; Al Novick. Heimerdinger, Mary A. - bird homing; Yale Conservation Program; Auk. Heinrich, Bernd - University of California, Berkeley; bee swarms; University of Vermont. Heintzelman, Donald S. - New Jersey State Museum; bird migration; National Science Foundation. Hellwig, Hannelone? -Cornell University; Germany. Hemenway, Harriett L. (Mrs. Augustus) - bats. Hendrickson, Joe R. - Vanderbilt University; bird homing. Hendryks, Ferdinand - bird navigation. Henning, Otto - Urania Berlin; German. Henson, O. W., Jr. - bat tuning, audiograms; Yale University; George Pollak; Al Novick. Herreid, Clyde F., III - Johns Hopkins University; rabies; Texas. Herschberger, Ruth bat repellents. Hersh, A. H. - Western Reserve University; bat demonstrations. Hewitt, Edward R. - Hiram Maxim; bat direction hearing. Hickling, Robert - General Motors Research Laboratories; bat echoes; Mary Harbold. Hillman, Herbert - Swarthmore College; assistantship at Cornell University; Scotland. Hind, J. E. - University of Wisconsin; electrical responses to sound. Hinde, Robert A. - Cambridge University Medical Research Council; Ariane Etienne. Hines, C. O. - University of Toronto; birds and gravity

waves; Nature. Hirsch, Jerry - University of Illinois; Animal Behavior Society; Robert Hinde.

Hoc-Hut box 5 folder 45

## **Scope and Contents**

Hochbaum, H. Albert - bird banding; Delta Waterfowl Research Station, Canada; Hockett, Charles S. - Cornell University. Hollander, Peter - Rockefeller University research associate. Hollander, Willard F. - bird navigation; Yale University. H"lldobler, Bert - Harvard University; social insect communication. Holtfreter, Johannes -University of Rochester; bird neuro-anatomy. Hooper, Emmet T. - University of Michigan. Hooper, John H. D. bat banding; horseshoe bats; England. Hooper, Winifred M. (Mrs. J.H.D.) - bats; caves; National Speleological Society. Hopkins, Carl D. - Cornell University. Hornung, J. L. photographs for textbook; Walter Hervey Junior College; McGraw-Hill Publishers. House of Travel - Africa travel. Howard, Robert C. - bat orientation; Bell Telephone Labs. Howe, I. A. (Mrs. Edward F.) - bats in house. Howell, Arthur H. - American Society of Mammalogists; bat gender ratio. Howell, Donna J. - Princeton University; Office of Naval Research; bat conference. Hubbard, J. C. - bat sound receptors; Catholic University . Hubbard, Ruth H. - National Research Council reference. Hubendick, B. - Naturhistoriska Riksmuseet, Sweden; bird sound recording. Huddy, Robert C. - homing pigeons. Huff, Jane N. - Michigan State University; mouse sound recording equipment. Hunt, F. R. - National Research Council of Canada; bird-aircraft collisions. Hunt, F. V. -Harvard University Underwater Sound Lab; echolocation. Huntington, Charles E. - bird radio-tracking; equipment loans; see also Projects-Bowdoin Scientific Station; Kent Island; Bowdoin College; . Huntsman, A. G. - bird and fish homing; Fisheries Research Board of Canada. Hutchins, Mrs. - housing issues. Hutchins, Louis - Woods Hole Oceanographic Institute; Cornell University. Hutchins, Ross E. - beetles swimming; Mississippi State College. Hutchinson, G. E. - Yale University. Hutchinson, Ronald - Senator Proxmire; Morton Schwartz; Golden Fleece Awards; Office of Naval Research; Fund to Protect Scholars from Defamation.

Hall, John S. box 5 folder 46

## **Scope and Contents**

Albright College; Trinidad; Simla; Beebe Tropical Station; bat banding; University of Illinois; University of Massachusetts; see also Projects-Bat Banding

Harrison, Jean box 5 folder 47

Wellesley College; UCLA; bird tracking; DRG research associate

Harvard University Biological Laboratories - General

box 5

folder 48

## **Scope and Contents**

George Bartholomew; Ernst Mayr; Roger Sperry; Books in Biology series; McGeorge Bundy; Biological Council; Paul

Mangelsdorf; Simonds Steel Mills; George Wald

Harvard University Biological Laboratories - Operations

box 5

folder 49

## **Scope and Contents**

NY Zoological Society; Elizabeth Thompson Science Fund; WGBH; Israel Institute for Biological Research; Massachusetts Institute of Technology (MIT); Shuer Brothers; Movie Lab Film Laboratories; J. C. Nicholls, Jr.

bat supplier

Harvard University, Fatigue Laboratory

box 5

folder 50

## **Scope and Contents**

General Electric Co.; James V. Bradley; Aero-Medical Laboratory; Sid Robinson; Kent Island; David Bruce Gill; Armored Medical Research Laboratory; World War II; insulated clothing; William Forbes; Ed Folk; National

Institute of Health; see also Karl Lashley

Harvard University - Personal

box 5

folder 51

## **Scope and Contents**

Society of Fellows; academic record

Hatch, Jeremy J.

box 6

folder 52

## **Scope and Contents**

Duke University; Rockefeller University; National Institute of Health; ornithology; Pickvance, T. J.; University of Massachusetts; Beebe Tropical Research Station

Heppner, Frank

box 6

folder 53

### **Scope and Contents**

University of Rhode Island; rockets; cloud detector;

Hitchcock, Harold B.

box 6

folder 54

Middlebury College; University of Western Ontario; bird homing; Office of Naval Research; American Philosophical Society; The Auk; Max Planck Institut; Gustav Kramer; Bates College; Thompson Science Fund; Jeffries Wyman;

Signal Corps; see also Projects-Bat Banding

Hock, Raymond J.

box 6

folder 55

## **Scope and Contents**

University of Arizona; Point Barrow, Alaska; Arctic Health Research Center; Arctic Aeromedical Laboratory; University of Iowa; G. Edgar Folk; Cornell University; Point Barrow

Huyck Preserve

box 6

folder 56

### **Scope and Contents**

also see Projects - Huyck Preserve; Thomas Ordway, MD; bird migration; bat banding; Jean Piatt; Robert Dalgleish

I and J box 6 folder 57

## **Scope and Contents**

Ilyichev, Valery - International Congress of Ornithologists. Ingman, Bob - U.S. Army Air Base; Wendover Field, Utah. Institute Fur den Wissenschaftlichen Film - film. Iriarte, Noel Fco. Leyva - bats; in Spanish. Irwin, Howard S. -New York Botanical Garden; Millbrook, NY. Isaacs, John D. - Scripps Institution of Oceanography; H. M. Johnson; Arctic Aero-Medical Lab; Alaska; Ladd Air Force Base. Isenberg, Martin - bats. Jackson, H. H. T. - U.S. National Museum; Southwest War Work. Jackson, V. W. - bats; Chautauqua, NY. Jacobs, Danny Odell - Harvard University; Rockefeller University. Jacoby, V. E. - reprints. Jaffe, Bernard M. - SUNY, Brooklyn. Jameson, E. W. - University of California, Davis; Cornell University; bat echolocation and anatomy. Jansen, Jan - Universitetet I Oslo, Norway; Jens Hall; bat hearing. Jaynes, Julian - Princeton University; animal psychology. Jen, Phillip H. S. - University of Missouri; Goethe Universitat; bat echolocation; equipment; Washington University; Lipmanova; Pollak. Jennings, William L. - Florida Board of Health; rabies; bat ultrasound. Jensen, Mary Jo - bats; Huyck Preserve. Jepsen, Glenn L. - Princeton University; bat fossil. Johnson Controls, Ltd. - M.W. Okinicha; harm to animals from microwave radiation. Johnson, Fred H. - Alaska; University of Illinois; Cornell University. Johnson, Martin W. - bat echolocation; Scripps Institute of Oceanography; Naval Radio Sound Lab. Johnson, Roger - caves; Massachusetts. Johnston, James W., Jr. - radio-carbon tags; Georgetown University School of Medicine. Jolly, Alison - Peter Marler; Rockefeller University; Sussex University. Jones, R. L. - bats in house.

Judd, A. Bradford - Cornell University; King Fahad Ign Saud Abdul Aziz; Saudi Arabia; Harvard University.

Irving, Laurence box 6 folder 58

## **Scope and Contents**

Arctic Health Research Center; Office of Naval Research; Barrow, Alaska; Swarthmore College; bird metabolism; Woods Hole

Ka-Kl box 6 folder 59

## **Scope and Contents**

Kaiser, Neva (Mrs. Walter) - animal thinking. Kalmbach, E. R. - Howard T. Odum; Yale University; bird migration; U.S. Wildlife Research Laboratory, Colorado. Karplus, Martin - see also Arctic Research Laboratory; California Institute of Technology; Bird Migration. Katsuki, Yafuji - Tokyo Medical and Dental University. Kavanau, J. Lee - University of California; genetics. Kearns, Mary H. (Mrs. William) - bats in house. Keester, Ross - University of Chicago; bat detector equipment. Keiser, David S. - bat and pigeon homing. Kelemen, George - Bat Larynxes; Harvard Medical School; Massachusetts Eye and Ear Infirmary; Mosher Lab. Kellerman, Henry - Postgraduate Center for Mental Health. Kelley, Edmund S. - Duxbury Yacht Club. Kellogg, Paul P. - Cornell University; sound recordings. Kennedy, John S. -Imperial College Field Station; bird and insect orientation; Woods Hole. Kenney, Robert - ultrasonics. Kerridge, David - University of Victoria; Hagmeier. Kiester, A. Ross -University of Chicago; bat detector;. King, John - Michigan State University; mice behavior. Kinne, Otto - Biologische Anstalt Helgoland. Kirk, George L. - bats; caves. Kittredge, Henry C. - St. Paul's School; Kent Island;. Kiviat, Erik -Bard College; bat survey. Kleerekoper, Herman - Hamilton College; McMaster University; physiology and orientation; Office of Naval Research; S. R. Galler. Kleese, Deborah rat communication; ultrasonics; Lynette Geyer. Kleinholtz, Lewis H. - Reed College; bats; Woods Hole. Klemm, W. R. - Texas A and M; book chapter. Klopfer, Peter H. - Yale University; tree swallow echo-location.

Kn-Ky box 6 folder 60

#### **Scope and Contents**

Knight, Howard - Weber College; bird navigation. Knipper, Helmut - Technischen Hochschule Darmstadt; birds. Koch, Arthur L. - Indiana University; turtle orientation. Koehler, Glen - bat tragus. Kohls, Glen M. - National Institute of Health; Montana; ticks on bats. Kolb, Anton - Gesamthochschule; Germany; insect sounds. Koller, Alice - National Humanities Center; animal communication; ethology. Korsmeyer, F. B. - bat echolocation. Kosciusko, Kris - Bates College; Millbrook, NY; Rockefeller University

Center for Field Research in Ecology and Ethology; employee. Kovasznay, Leslie S. G. - Johns Hopkins University; equipment; bat ultrasonic sounds. Kramer, Gustav - Max Planck Institut; Ernst Mayr; bird directionals. Kreithen, Melvin L. - Cornell University; pigeon homing; University of Pittsburgh. Krinsky, Susan G. - Harvard University. Kronenberg, Fredi - Stanford University; mammalian scent making; Katherine Ralls. Krzanowski, Adam - Poland; chiropterology. Kuhl, Patricia K. -University of Washington; speech perception. Kuhring, M. S. - National Research Council of Canada; bird hazards to aircraft; Jacoby. Kulzer, Erwin - Universitat Tubingen; bat larynx. Kunz, Thomas H. - Boston University; monitoring bat flight; Trinidad; Bradbury; U.S. Army Night Vision Laboratory. Kyllingstad, Henry C. - Fort Yates, North Dakota; bird banding. Kyshakevych, R. Y. - oilbirds; Trinidad; Peace Corps; Colombia.

Keeton, William T.	box 6	folder 61	
Scope and Contents			
Cornell University; bird orientation;			
Kennedy, Donald	box 6	folder 62	
Scope and Contents			
Woods Hole; National Science Foundation; Syracuse			
University; frog and fish retina; Stanford University;			
Harvard Club; Syracuse University			
Konishi, Mark	box 7	folder 63	
Scope and Contents			
Venezuela; oilbirds; Princeton University; Trinidad; W. H. Phelps, Jr.; ethology; Cal-Tech; Chillagoe			
Konstantinov, Aleksei	box 7	folder 64	
Scope and Contents			
Indiana University; Leningrad State University; James Simmons; Rod Suthers;			
La-Le	box 7	folder 65	

### **Scope and Contents**

Lack, David - Oxford University; bird orientation and sounds. Lackey, Catharine (Mrs. Walter) - bats and articles. Ladenburg, Rudolf - Princeton University; Sound wave photos. Lagemann, R. T. - Emory University; Galambos. Gressley, Gene M. - University of Wyoming archives. Landau, Barbara - blind children's echolocation; University of Pennsylvania; Henry Gleitman. Lange and Springer - in German. Langerholc, John - musical harmony and bat

echolocation. Langmeier, Dave - insect sounds; Haile's Cave; RCA Manufacturing co.. Lansa, Renee (Mrs. Conrad) - bats in house. Larkin, Ron - Illinois Natural History Survey Division; Air Force work; Woods Hole; Fourier transform; Gould; Mueller; honeybees. Kuhl, Patricia K. - University of Washington; speech perception. Larsen, Richard J. -Vanderbilt University; echolocation data. Latham, William H. - Boy Scouts; bat repellents. Laven, Hannes - in German; A.O. Gross, Bowdoin College. Lavender, Tony - sound recordings; see also James Simmons. Leader, Bob -Rockefeller University Laboratory of Animal Behavior; Bill Conway; Gandal; NY Zoological Park. Leavitt, Kent - Innisfree; Stillman and Cagney Estates; Millbrook, NY. Lederberg, Joshua - Stanford University; Richard and Martha Furie; tropical fish; Marilyn Yodlowski. Lee, Edward M., Jr. - bats in house. Lee, James B. - bird migration; Eleonora D'Arms. Leger, Daniel - University of Nebraska; squirrel alarm calls. Leghorn, Kenneth -Phillips Exeter Academy. Lehman, A. Thomas - bats; Union Mutual Life Insurance Company. Leitner, Philip -St. Mary's College; bat altitude; Beebe Tropical Research Station. Leonard, Christiana M. - working paper on women at Rockefeller University; John Raper. Leppik, Elmar E. - Augustana College; pollinating insects. Levi, Wendell M. - The Pigeon; bird orientation. Levine, Elizabeth -Amherst College; bat ovulation. Levine, Jacob "Jack" - Human blindness; Old Farms Convalescent Hospital; soldiers. Lewellen, John - bird navigation; Saturday Evening Post. Lewis, Glenn E. - National Center for Atmospheric Research Computing Facility; computer development. Lewis, Harrison F. - Canada Department of Mines and Resources. Lewis, John - McGill University; bird orientation.

Li-Ly box 7 folder 66

### **Scope and Contents**

Licklider, J.C.R. - MIT; Thiessen; Shaw; Journal of Acoustical Society of America. Lidicker, William Z., Jr. - University of California, Berkeley; bat DNA. Lien, Jon - Memorial University of Newfoundland; whale recordings; Chris Spencer; Roger Payne; Peter Tyack. Lillestrand, Robert - General Mills Research Laboratory; Birds and wind currents. Lincoln, Frederick C. - U.S. Fish and Wildlife Service. Lindauer, Martin - Universitat Wurzburg; in German. Linhart, Samuel B. - U.S. Fish and Wildlife Service; bats and rabies. Lippman, Louis -Western Washington State College; bat navigation. Little, Luther - Bat banding; California. Llewellyn, Leonard M. -Virginia Polytechnic Institute; bat banding. Lloyd, James E. - University of Florida; sound equipment. Lockard, Robert B. - University of Washington; textbook. Lord, Frederick T. - bird homing. Lord, Rexford D. - Centro Panamericano de Zoonosis; Argentina; bats. Loregnard, Robert - I.M. Goodbody; University College of the West Indies; Trinidad; . Lorenz, Konrad - Max Planck Institut.

Losee, Margaret - State University at New Paltz, NY; caves. Lowery, George H., Jr. - Louisiana State University; bird navigation. Luce, E. S. - Custer Battlefield National Monument; bats in buildings. Lyman, Charles - Harvard Medical School; Museum of Comparative Zoology. Lynch, F.C.C - National Development Bureau Canada.

Lashley, K.S. box 7 folder 67

## **Scope and Contents**

Yerkes Laboratories; bats and blind veterans; birds; radar; Bonaventure Island; Arctic Research Laboratory; Office of Naval Research; Point Barrow, Alaska; homing; von Frisch; Florida State University; Harvard Fatigue Laboratory;

Darryl Bruce; Henry Yeagley

Lecture Requests	box 7	folder 68
Lipmanova, Eugenia (Janna)	box 7	folder 69

## **Scope and Contents**

Konstantinov; Laboratoire de Spectronomie Moleculaire; Paris; Leningrad State University; USSR Space Training Center; University of Texas; George Pollak; refugee scholar; Jewish; Boris Lipmanov; National Institute of Health

Ma-Me box 7 folder 70

### **Scope and Contents**

MacDonald, Alister - University of NC, Wilmington; Woods Hole; echo fish; Office of Naval Research. Mahaley, M. S., Jr. - Cave Temperatures; North Carolina. Malins, Donald - National Oceanic and Atmospheric Administration; Northwest and Alaska Fisheries Center; lipids and sound. Mandriota, Frank J. - Hunter College; psychology; pilot. Manery, Jeanne F. - Canada; National Defense Research Lab; radiation. Manion, Bruce L. -Pretrels; Alpha Helix; New Guinea; San Francisco State University. Marchetti, John W. - birds and radar; Air Materiel Command; Cambridge Field Station. Marler, Peter - Rockefeller University; birds; airplanes; 2 color slides. Marley, A. A. J. - McGill University; neurophysiology of echolocation. Marsh, Elizabeth Redfield (aunt) - Stockton State College. Marshall, John - Peabody Museum; Harvard University; Film. Marshall, Wade H. - National Institute of Health; animal suffering. Martin, Edward - Texas A and I; recording equipment. Martin, Robert L. - University of Maine; Bat Research News. Mason, A. G. - bird migration routes; Thomas H. Mason and Sons. Mason, C. Russell -Massachusetts Audubon Society; airplane study of birds. Mason, Edwin A. - bat and gull banding. Massachusetts General Hospital - Dr. Lurie; Miss Linden; bat anatomy; Mosher Laboratory . Masters, Gene P. - MIT; echolocation. Masters, Mitch - University of Oregon; bat sonar tracking;

James Simmons; Anne Moffat. Matuschke, Gunter - bat photo. May, Les - animal sound equipment; Scotland. Mayr, Ernst - American Museum of Natural History; bird banding; Evolution. McCleary, James A. - Northern Illinois University. McCormick, James G. - Naval Undersea Warfare Center; porpoise hearing; Princeton University. McCoy, Dr. - Paper for Walker Prize. McCue, J. J. G. -MIT; Lincoln Lab; signal processing. McGill, Thomas E. - Williams College; Comparative Psychology. McIlhenny, E. A. - homing birds; Avery Island, LA. McIntyre, Judy - University of Minnesota; Kytoons, Kite balloons for bird sounds. McLean, Noel B. - Atlantic Foundation; Woods Hole; George Ruggieri; Osborn Laboratories. McMahon, Senator Brien - atomic energy control bill; Manhattan Project. McMillan, Ann - musician; recorded animal sounds; New York City Urban Corps. Medway, Lord and Lady - University of Malaya. Mellgren, Roger L. - University of Oklahoma; animal cognition book chapter. Menaker, Michael - University of Oregon; University of Texas, Austin; James Simmons; H. F. Guggenheim Foundation. Menaker, Walter - smoking addiction; Rockefeller University; Dr. Schachter; lunar periodicity. Mer, G. G. - Hebrew University; Malaria Research Station, Palestine; bats. Messler, Frank J. - ultrasonic equipment. Meteorological Research Unit - England; instruments on balloons.

Mi-My box 8 folder 71

## **Scope and Contents**

Milkman, Roger - University of Iowa; neurobiology. Miller, Howard A. - birds and high frequency sounds. Gobert, Andrew - Cornell University; pigeons; George Feliu. Miller, Mal - School of Aviation Medicine; bat diseases. Miller, Mary - bats in house. Miller, Richard S. -Colorado State University; cowbird migration. Milhovic, Karuche? - Yugoslavia. Minnich, D. E. - University of Minnesota; Donald Kennedy; Timothy Goldsmith. Mitchell, H. P. - bats for orchard use. Mitchell, M. H. -Canada; fishing bats. Miyahara, Jirokichi - in Japanese; bird orientation. Mock, John E. - State of Georgia Science Advisory Council; kytoons; equipment. Moffett, J. A. - Whitehall Foundation; RU Dept. Biology Advisory Council. Mohler, Irvin C. - American Institute of Biological Sciences. Moldenke, Harold N. - Union County, NJ Park Commission; Doubleday children's book. Molini, Lt. Antino F. - bats; Puerto Rico. Moller, Aage R. - Karolinska Institutet; hearing exhibit; conferences. Moore, A. D. -University of Michigan; animal energy. Moore, Bruce R. - Dalhousie University; bat film. Moore, Clifford B. - Trailside Museum; zoology textbook. Moore, Joseph C. - Everglades National Park; manatee; bats in Florida. Moore, Mrs. Peter L. - animal navigation; crab "radar"; Fortune magazine. Moore, Terris - University of Alaska; bird navigation. Moorehead, Warren K. - Phillips Academy. Moorman, F. Lander - proving God's existence. Morell, L.

E. - bat radar; recording equipment. Morse, Douglass H. -University of Michigan; theory of pecten. Morton, Eugene S. - Smithsonian Institution; bird sound recording. Morton, John M. - bats carrying bedbugs; Philippines; Missouri House of Representatives. Moulton, James W. - Bowdoin College; Woods Hole Oceanographic Institution; Office of Naval Research; fish sound production; Lalor Foundation; Kent Island. Moynihan, Martin - University Museum, Oxford; N. Tinbergen; Gustav Swanson; Cornell University. Moysey, Bob - Saipan bats. Mulcahy, Frances - Visit 4th graders. Muller, Fredrik A. - University of Virginia; bat flight patterns. Munroe, Thomas G. - caving, Buffalo, NY; General Cable Co.. Murman, Mrs. Sydney P. - bats in house. Murray, Bertram G., Jr. - Cornell University; bird navigation. Myers, Richard F. - University of Missouri; U.S. Army. Myres, M. T. - University of Alberta; bird orientation.

Markl, Hubert	box 8	folder 72	
Scope and Contents			
Beebe Tropical Research Station, Trinidad; Indiana University; Zoologisches Institut, Frankfurt, Germany; Zoologisches Institut der Technischen Hochschule; Behavioral Ecology and Sociobiology; Alpha Helix			
Matthews, G.V.T.	box 8	folder 73	
Scope and Contents			
University of Cambridge; bird navigation; Wildfowl Trust;			
McNab, Brian	box 8	folder 74	
Scope and Contents			
University of Wisconsin; echolocation; Beebe Tropical Research Station; Trinidad; Universidade de Sao Paulo; Rod Suthers; NY Zoological Society; Alpha Helix			
Meyer, Otto	box 8	folder 75	
Scope and Contents			
Pigeon Breeding and Training Center; Donald Gordon;			
Michener, Martin C.	box 8	folder 76	
Scope and Contents			
pigeon tracking by airplane; Charles Walcott; Education Development Center;			
Mislin, H	box 8	folder 77	

Universitat Basel, Switzerland; Experientia; Cameroon expedition

Mohr, Charles E. box 8 folder 78

## **Scope and Contents**

Audubon Center; Rockefeller Foundation fellowship; Reading Public Museum; bat homing; bat banding; Academy of Natural Sciences of Philadelphia; P. J. Bels;

Mohres, Franz Peter box 8 folder 79

## **Scope and Contents**

Dr. Schnitzler; Beebe Station, Trinidad; John Nelson; Alpha Helix; New Guinea; Zoologiches Institut; see Galler, Office of Naval Research; Sid Galler

Morse, Philip W. "Pete" box 8 folder 80

## **Scope and Contents**

Cleveland Plain Dealer; Bowdoin Scientific Station; friend; bat banding

Mueller, Helmut C. box 8 folder 81

### **Scope and Contents**

University of Wisconsin; bat conditioning; University of North Carolina

N box 8 folder 82

### **Scope and Contents**

Nachtigall, Werner - Zoologisches Institut der Universitat des Saarlandes; Germany; birds; infrared viewers. Narins, Peter - University of California, LA; frog sounds; geophones. National Audubon Society - bird-airplane collision. National Educational Alliance - payment dispute. National Research Council - Committee on Biosphere Effects of . . . . Radiation; U.S. Navy. National Speleological Society - membership; LeRoy Foote; Delmar Wildlife Research Center. Natuschke, Gunther - Germany; bat bibliography. Nelson, John - University of Queensland; Monash University; Alpha Helix; Trinidad; New Guinea; Australia; echolocation; instruments; Mohres. Nelson, Theodora - bird banding. Nesbit, William - flashlight apparatus; animal photography. Neuhaus, Walter -Universitat Hamburg; bird sound measurement. Neuweiler, Gerhard - Zoophysiologisches Institut der Universitat Tobingen; Germany. Newbury Lumber and Building Materials - bats in lumberyard. Newcomer, W. Stanley -

Oklahoma A and M; equipment. New Hampshire Nature Camp - Jarvis Hadley; Barnum Museum, Tufts College;. Newton, R.G. - England; bird navigation. New York Academy of Sciences - membership; see also Publishers. Nichols, David Gelston - bats; Groton friend. Nicholls, David G. - Geelong C of E Grammar School; Australia; tracking bird migration with Doppler and satellites. Nickel, Jim - Oklahoma physics teacher. Nielsen, Erik Tetens -Molslaboratoriet, Denmark; American Museum of Natural History; Archbold Expeditions; Office of Naval Research; Florida State Board of Health; Sherwood Hammock Biological Laboratory. Nippon Television Network - Toshio Nakazawa. Nisbet, Ian C. T. - Massachusetts Audubon Society; bird navigation. Noland, Lowell E. - University of Wisconsin. Nordmach, Jan - Karolinska Institutet; Sweden; echo-location. Norris, Kenneth - Marineland of the Pacific; Office of Naval Research; Dody Dunning; Lorenz; Sidney Galler; echo-location; University of California, Los Angeles; Scripps Institution of Oceanography; Norris Nausea Machine; Makapuu Oceanic Center; Hawaii. Nortan, Arthur H. - Portland Society of Natural History; Maine. Northington, Captain Page - Department of Navy; bird homing; streptomycin. Novick, Alvin - Harvard University hospital; Yale University . Nowicki, Stephen - bird communication; Rockefeller University. Nuttall Ornithological Club - Oscar Root; Brooks School; Museum of Comparative Zoology; New England Museum of Natural History; Wendell Taber; . Nyquist, Alfred W. - Caves; Finger Lakes region of New York; O. D. von Engeln; Cornell University.

National Academy of Sciences	box 9	folder 83	
<b>Scope and Contents</b>			
Orson Eaton; Secretary of the Interior; C. B. Morton; Bureau of Sports Fisheries and Wildlife			
National Geographic Society	box 9	folder 84	
National Science Foundation	box 9	folder 85	
<b>Scope and Contents</b>			
evaluation of proposals; Agency for International Development; India;			
New York Zoological Society	box 9	folder 86	
Scope and Contents			
see also Emsley, Michael; membership;			
0	box 9	folder 87	

Oaks, Emily C. - Utah State University; sound recording equipment. O'Brien, John P. - Marquette University; bat suppliers. Odend'hal, Stewart - University of California-Davis; . Odum, Eugene P. - University of Georgia; Huyck Preserve. Odum, H. T. - Duke University; radar; Yale University. Ojasti, Juhani - Universidad Central de Caracas; Venezuelan bats and birds. O'Kelley, T.G. - rabbit supplier. Olive, Jeannie and Lindsay - University of North Carolina; duck heart rate. Oliver, James - bird's eye capabilities. Onion, Daniel K. - sound equipment; deer; New Hampshire; Maine; Harvard University. Organization for Tropical Studies - J. T. Spencer; Costa Rica; Fernando Nottebohm. Oring, Lewis - bird migration and calls; University of North Dakota; Michael Avery. Orr, Robert T. - California Academy of Sciences; bat sounds; equipment.

O'Mahony, Eugene

box 9

folder 88

## **Scope and Contents**

James S. Fairley; Irish mammalogists; National Museum of Ireland; photos;

Osgood, Frederick L., Jr.

box 9

folder 89

## **Scope and Contents**

mammalogist; Vermont; caves; bat banding

P-Q box 9 folder 90

### **Scope and Contents**

Packard, Fred - bats, caves; Austin Ornithological Research Station; Harvard; National Park Service; Olympic National Park; . Painleve, Jean - Institut de Cinematographie Scientifique; film. Painter, Ben - Armstrong Junior College; Georgia; birds. Palmer, Ralph S. - seal meat; foxes; U.S. Naval Reserve; Vassar College. Park, Mrs. Francis E., Jr. (Catherine) - bat counting. Parker, John G. - Wisconsin; bats. Parkes, W. Raymond - Liverpool University Medical School . Payne, Charles L. - ultrasonic whistle. Payne, Fernandez - University of Indiana; echolocation; Walter Hahn. Pear, C. B., Jr. - Washington Institute of Technology; homing pigeons . Pendexter, Ursula - bats in house. Penney, Richard Lee - Iowa; Rockefeller University Institute for Research in Animal Behavior; penguins; Beebe Tropical Research Station; New York Zoological Society; U.S. Department of Agriculture. Pennington, Anthony J. -Princeton Engineer; article; Brush Recorder. Pennoyer, F. W., Jr. - bat sound reproduction; Naval Air Material Center. Pennsylvania, Commonwealth of - Department of Health; rabid bats; Ernest J. Witte. Pennycuick, Colin V. - Bristol University; wind tunnel; Ransome. Pepperberg, Irene Maxine - Purdue University; bird communication;

H. F. Guggenheim Foundation. Perdeck, A. C. - radar equipment for tracking birds; Radio Research Instrument Co.; Netherlands. Perry, Tom L., Jr. - Harvard friend; caves; bats; Oxford. Peterson, Roger Tory - personal papers. Peto, H. R. - boat in Maine. Pettit, T. - Hunter Mountain property (Catskills); bird navigation. Phillips, W. W. A. - Tonacombe Group; Ceylon. Phipps and Bird Inc. - laboratory equipment supplier. Pielemeier, W. H. -Pennsylvania State College; bat sound measurement. Pierce, G. W. - Harvard University Physics Dept.; bat sounds and equipment; Fazil Khan. Pike, Oliver G. - echolocation; Nature article; England; photography. Pinchot, Gifford B., M.D. - airplane tracking; bird navigation. Pincus, G - Clark University; bat observations; Dr. Werthesen. Pitcairn, Lachlan and Mrs. Raymond - Tonshi Mountain property (Catskills); night bird migration sounds. Platt, C. S. - Agricultural Experiment station, New Jersey; Rutgers University; pigeons. Player, Jonathan - Guyana caves; England. Pobowski, Miss G. - bats. Poduschka, Walter - Austria; hedgehog sounds; equipment; Volkswagen Foundation. Pollak, George - Yale University; reference; bats. Pope, Alton S., M.D. - Dept. of Public Health, Massachusetts; bats, moles. Post, William - Caribbean Primate Research Station; Puerto Rico. Pratt, David -Harvard University; Woods Hole; . Pratt, John G. - Duke University; parapsychology; pigeon homing; Office of Naval Research; Ursula Von St. Paul; . Preble, Norman A. - University of Kansas; bat banding . Prescott, Hubert W. - Montana; shrews. Presti, David - University of Oregon; birds; geomagnetic fields. Pribram, Karl H. - Stanford University; Yerkes's Primate Research Center; . The Princeton Engineer - Anthony J. Pennington; bird sonar and military radar. Pronko, N. H. - University of Wichita; bird navigation. Pumphrey, R. J. - University of Liverpool; pulse in larynx. Quantico Post School - Marjorie Molyneaux; biology class request. Quine, Doug - Dalhousie University; Rockefeller University.

Palme Arthur

Tallie, Artiful	OOA )	Torder 71	
Scope and Contents			
bat banding; Mount Greylock State Reservation Commission; Massachusetts			
Papi, Floriano	box 9	folder 92	
Scope and Contents			
Universita di Pisa, Italy; ultrasonic equipment; bird navigation; smells in pigeon homing; Rhodes University			
Parker, Henry M.	box 9	folder 93	

box 9

folder 91

WWII letters; Harvard friend; Germany; France; Signal

Pigeon Company

Payne, Roger S. box 9 folder 94

## **Scope and Contents**

Cornell University; ornithology; Office of Naval Research; Museum of Natural History; Audubon Society Station;

Rockefeller University; whales; Argentina

Pearson, O. Payne box 9 folder 95

## **Scope and Contents**

bird flight; Swarthmore College; University of California,

Berkeley; Elizabeth Levine; Colombia;

Perry, Clay box 9 folder 96

## **Scope and Contents**

caving; bat banding; Arthur Palme; Massachusetts; National

Speleological Society;

Phelps, William H., Jr. box 9 folder 97

## **Scope and Contents**

Venezuela birds and bats; de Bellard; Creole Oil

Publishers -Doubleday and Co. box 10 folder 98

## **Scope and Contents**

Educational Services Inc.; Physical Science Study Committee; Massachusetts Institute of Technology; Bird Migration; Echoes of Bats and Men; Orientation of Bats;

Natural History Press;

Publishers - Dover Publications box 10 folder 99

## **Scope and Contents**

Listening in the Dark; Bird Migration; Doubleday; Yale

University Press

Publishers - MacMillan and Co. box 10 folder 100

## **Scope and Contents**

Nature

Publishers - National Geographic box 10 folder 101

Publishers - Other

box 10

## **Scope and Contents**

Academic Press; American Journal of Physics; American Scientist; Anima; Arete Publishing Company; ASP Biological and Medical Press; Bird-Banding; Birkhauser Boston, Inc.; Book of Knowledge; William C. Brown Co.; Bulletin of Museum of Comparative Zoology; Cambridge University Press; Richard Carrington; Cornell University Press; Ecology; Editions VDB; Encyclopedia Britannica; Euclides; W. H. Freeman and Company; Greenwood Press; Grolier Society; Harper's Magazine; Harrow House; Harvard University Press; D.C. Heath and Co.; Houghton Mifflin Co.; Hunter-Trader-Trapper; Journal of the Acoustical Society; Journal of Experimental Zoology; Journal of Mammalogy; Alfred A. Knopf; Little, Brown and Co.; Hugh

C. MacLean Publications; McGraw-Hill Book Co.; Natural History Press; Neuroscience and Biobehavioral Reviews; W. W. Norton and Co.; Oxford University Press; Perspectives in Biology and Medicine; Physiological Reviews; Popular Science; Progress in Physiological Psychology; Quarterly Review of Biology; Reader's Digest; W. B. Saunders Co.; Schenkman Publishing Co.; Science; University of Chicago

Press; John Wiley and Sons; Yale University Press

folder 102

Publishers - Reviews by Griffin

box 10

folder 103

## **Scope and Contents**

Academic Press; American Weekly; The Auk; Behavioural Processes; Bird-Banding; Cambridge University Press; Dodd-Mead and Co.; E. P. Dutton; Ecology; Holiday House; Journal of the Acoustical Society of America; Journal of Comparative Physiology A; Journal of Experimental Zoology; Journal of Mammalogy; Journal of Theoretical Biology; Journal of Wildlife Management; Natur Wissenschaften; National Geographic; Nature; New York Academy of Sciences; Oxford Companion to Animal Behavior; Plenum; Psychological Bulletin; Princeton University Press; Royal Ontario Museum; W. B. Saunders Co.; Science; Scientific American; Smithsonian; Stanford University Press; John Wiley and Sons; Wilson Bulletin

Publishers - Scientific American

box 10

folder 104

## **Scope and Contents**

bird migration; Creole Petroleum; oil birds; Venezuela; Discovery; Vision

Publishers - Time-Life

box 10

folder 105

Nina Leen; Animal Behavior; Beebe Tropical Research Station; Trinidad; Harvard University; New York Zoological

Society; William H. Stiles; Cornell University

Pye, J. David box 10 folder 106

## **Scope and Contents**

Institute of Laryngology; England; bat recordings; Trinidad; University of London; Kings College; ultrasonic; Queen Mary College; Scientific American; C. L. Stong; Air Force

Office of Scientific Research

Ra-Ri box 11 folder 107

## **Scope and Contents**

Rabin, Aaron - Rockefeller University; chemical senses. Rabor, D. S. - Silliman University; Philippines; caves in Mindanao. Racing Pigeon - publisher; supplier. Rainey, Dr. - Centre for Overseas Pest Research; London; Alison Steedman; bird migration. Ralls, Katherine - Kenya; New York Zoological Society; Uganda; Tanzania; Museum of Natural History; Smithsonian Institution; Millbrook. Rand, Austin L. - National Museum of Canada; bats. Randolph, Howard S. F. - bats in hair. Ransome, Roger D. - England; Bristol University; bat biology. Rao, K. Pampapathi - Andhra University; India; mussels;. Raper, John - Harvard University; women biologists; Christiana Leonard; Rockefeller University women status. Raspet, August - Mississippi State College; sailplane for research; bird migration. Raup, Hugh M. - Harvard University; forests; . Rayment, Robert - Meteorological Research, Royal Air Force; England. Raytheon Co. - Satellite Wildlife Research Program; biotelemetry study; radio tracking; Lester Garvin; W. Cochran; R. Suthers. RCA Laboratories - P. N. Yocom; transducer improvements; radar equipment. Rea, E. M. - bats in auditorium, New Orleans; Mardi Gras floats. Reed, Sheldon - University of Minnesota recruiting. Reille, Antoine - Laboratoire de Neurophysiologie, Paris; bird navigation. Reisman, Ron - University of Pennsylvania; psycholinguistics. Renn, Charles Easterday - Elisabeth Sheffield . Renshaw, Birdsey - University of Oregon Medical School . Research Center for Language and Semiotic Studies - Indiana University; Thomas Sebeok. Reuland, J. E. - R. M. Fasanella; Yale University School of Medicine; bird navigation. Rice, Charles E. - Stanford Research Institute; Kenyon College; echolocation. Rice, William R. - University of California, Davis; acoustical location of prey; . Richard, P. B. - beavers; publishing in English; Paris. Richardson, W. John - Cornell University; weather and bird flight; Millbrook. Richey, M. W. - Royal Geographical Society; England. Riggs, Austen - bird homing; effects of lights and aircraft on birds; University of Texas. Riggeih, Austen Fox - Cambridge, Massachusetts;

bird homing. Ripley's Believe It or Not - erroneous publication. Ripley, S. Dillon - Peabody Museum of Natural History; Smithsonian Institution; Beebe Tropical Research Station. Ripon College - Wisconsin; commencement speech. Riss, Walter - Down State Medical Center; NY.

Ro-Ry box 11 folder 108

## **Scope and Contents**

Roberts, Brian - Scott Polar Research Institute; England; Antarctic birds . Robinson, Robert A. - Johns Hopkins Hospital; bat bones. Rockefeller Foundation - Dr. Pratt; Bellagio. Rocky Mountain Biological Lab - 1980 forms (blank). Rodriguez-Teijeiro, Jose D. - bird echolocation; Universidad de Barcelona. Roeder, Kenneth D. - Tufts University; film; moth ultrasonic receptors. Roer, Hubert - Zoologisches Forschungsinstitut; Germany; bat banding. Roffey, Jeremy - Centre for Overseas Pest Research; England; bird migration; insect radar. Rogers, Mary Ann -Woods Hole Oceanographic Institute; Cornell University. Romeyn, J. A. - University of Alberta; Canada. Rose, Jerzy E. - John Hopkins University School of Medicine; live bats for neuro-anatomical study. Rose, William B. - Harvey Society lecture. Rosenblatt, Jay S. - Rutgers University; U.S. Ethological Conference Committee; Dr. Marie Luise Leder; City College. Rosenblum, Ann M. (Mrs. Murray) - bats in Mahopec, NY house. Rosenthal, Gerson M., Jr. - University of Chicago; birds and wind, climate effect. Ross, A. - Arizona Western College; bat food habit studies. Rostron, B. T. - bat vocal organs. Rouk, C. Stanley - Baylor University; bat stomach contents. Round, H. J. - bat sounds, microphones; England. Rowan, William -University of Alberta; Canada; bird migration and daylight; Lowell Institute; Biological Reviews. Rutschmann, J. - high frequency sound; NY State Psychiatric Institute. Rysgaard, George N. - University of Minnesota; Kellogg Bird Sanctuary; bird banding.

Rawson, Kenneth box 11 folder 109

#### **Scope and Contents**

Max Planck Institute; bird orientation and time sense; University of Wisconsin; Arctic Aeromedical Laboratory; Swarthmore College; George Scott; Oberlin College; National Science Foundation; Gustav Kramer;

Redfield, Alfred box 11 folder 110

## **Scope and Contents**

see Griffin, Donald R.-Family for personal correspondence; von Frisch; Woods Hole Oceanographic Institution; K. S.

Lashley; Pete Scholander; van Dam; Arctic Aeromedical

Laboratory; Air Force

Robinson, Doug and Sarah

box 11

folder 111

#### **Scope and Contents**

Cornell University; flight acoustic data; Skillman State

Village; New Jersey

Robinson, Peggy

box 11

folder 112

Conditions Governing Access:

## **Conditions Governing Access**

Restricted from scholarly access.

Rockefeller University - Laboratory of Animal Behavior

box 11

folder 113

## **Scope and Contents**

Armin Braun; Bucknell University; computer development; Dukane Corp.; Duke University; Dody Dunning; Eisenberg; Owen Floody; General Radio Co.; Grass Instrument Co.; Holgate detector; Jalbert Aerology Laboratory; Knowles Electronics; Bob Leader; Christiana M. Leonard; McGeorge, Lee; Millbrook, NY; Nantucket Kiteman; NBC television program on aggression; Carl Pfaffmann; David Pye;

Randolph Air Force Base; Robert Schoenfeld; Frank Stubbs;

Westinghouse Electric Corp.; Timothy Williams;

box 11 folder 114

## **Scope and Contents**

Sa-Sd

Sachs, Murray B. - Johns Hopkins University School of Medicine; pigeon nerve system. Saint Cyr, Edith - Nevada; teacher; bats and apples. Salmon, Michael - University of Illinois; bat film. Sanborn, Colin Campbell - Field Museum of Natural History; bat skins; lecture. Sanderson, Glen C. -Illinois Natural History Survey; Frank Bellrose; University of Illinois. Sandusky, O. E. - bat memo. Sanford, Thomas B. - Woods Hole Oceanographic Institution; birds and electro-magnetic fields. Santa Cruz, Pat - bats in attic. Sarles, Harvey B. - University of Minnesota; Harry F. Guggenheim Foundation. Saunders, Frederick A. - Mt. Holyoke College; bird banding. Scarlett, William and Leah - Bonaventure Island; photographs of gannets. Schaps, Gary L. - bird migratory behavior; Washington University; Suga. Schilling, Harold K. - Pennsylvania State College; bat ultrasonic waves; high frequency sounds; equipment; larynx. Schleidt, Wolfgang - Max Planck Institute; Rawson; equipment. Schneider, Hans - Zoologisches Institut; Germany; bats catching insects; bat film. Schneirla, Ted C. - American Museum of Natural History; von Frisch film; Wilner Films and Slides; Alden Potter; E. J. Mauthner. Scholander, Per Frederick "Pete" and Susan - Swarthmore

College; Alpha Helix; Point Barrow, Alaska; Woods Hole; U.S. Air Force; fur insulation properties; Knut Schmidt-Nielsen; diving animals. Schuck, O. H. - Minneapolis-Honeywell Regulator Co.; acoustic orientation. Schuz, Ernst - Kaiser Wilhelm Gesellschaft; Germany; bird navigation. Schwab, John L. - U.S. Chemical Corps; Camp Detrick, MD; Biological Dept.. Schwartzkopff, J. - Universitat Gottingen; Germany; bird wing sensitivity; Ruhr-Universitat Bochum. Schweitzer, Jeff (and father John) - Paleontology; American Museum of Natural History. Scichtman, M. -Bayside High School (NY); bat food. Scott, George T. -Bermuda Biological Station; NY; U.S. Army Air Force . Scott, John Paul - Roscoe Jackson Memorial Laboratory; Committee for Study of Animal Societies; bird navigation; von Frisch. Scott, Oliver - traps; mice; Barnstable. Scott, Peter - Wildfowl Trust, England; Jeremy Hatch; birds and thermal currents. Scribner, Kimball J. - Explorers Research Corp.; bird orientation; aviation research.

Se-Sm box 11 folder 115

## **Scope and Contents**

Seaman, Arlene R. - NY State University; bat and bird retina; Michigan State University; Beebe Tropical Research Station; Trinidad; New York Zoological Society. Sears, W. R. - bumblebee flight; Northrup Aircraft; Journal of Aeronautical Sciences. Sebeok, Thomas A. - East-West Center; animal communication book; Research Center for Language Sciences. Segedin, George J. - reference; Kaiser Engineers. Selander, Robert K. - spectrographs of cave swallows; University of Texas, Austin. Semple, John B. -Geographic article re bats. Sessions, Jack - poetry. Setlow, R. B. - DNA and life span; Oak Ridge National Laboratory. Seyfarth, Robert and Dorothy Cheney - monkeys in Africa; UCLA; University of Pennsylvania; see also Richard Garwin. Seymour, Christopher J. - bats as pets. Shaffer, Chester M. - bats in West Virginia. Shalter, Michael -Ruhr Universitat Bochum; bird echolocation; Germany. Shapovalov, Leo - California Division of Fish and Game; fish homing; Natural History Museum. Shaw, Henry S. bird homing; Huyck Preserve; General Radio Co.; Kent Island. Shaw, Neil A. - Argonne National Laboratory; Woods Hole; bird radar; University of Melbourne; PLESSEY; acoustic sounders. Shea, John Bernard -National Geographic article re bats. Sheahan, Terence G. - National Geographic article re bats. Sheldon, Walter H. -Emory University School of Medicine; bats for experiments. Shelley, Lewis O. - bat colonies. Sherman, Frederick G. -Brown University; Kennedy; Goldsmith; Novick. Sherman, H. B. - University of Florida; bat food; cages; NIH grant; bat banding. Shilling, C. W. - George Washington University; bat sonar; see also U.S. Office of Naval Research. Shull, A. Franklin - University of Michigan; flying bat photo. Shy, Eyal - Hebrew University of Jerusalem; graduate student application. Sibley, Charles C. - Cornell University; ornithology. Sikkel, P. P. H. - bat eradication; architects;

South Africa. Sikorsky, Igor - Vought-Sikorsky Aircraft Corp.; helicopters to observe birds. Silva, Gilberto - bats in Cuba; Instituto Nacional de Reforma Agraria. Simon, James R. - Jackson Hole Wildlife Park; pelican research. Simpson, Myron L. - Johns Hopkins University; bats for experiments. Skinner, B. F. - pigeon visual recognition; bird radar; Indiana University; psychology; war work. Skinner, Dorothy M. - Oak Ridge National Laboratory; Woods Hole; bird navigation; . Skoryna, Stanley - McGill University; bat echolocation. Slocum, Lloyd V. - Woods Hole; Charles and Libby Marsh; Pennsylvania State University; electrical engineer. Small, S. N. - bats. Smith, Alpheus W. - Ohio State University; bat supersonic sounds; photograph for physics textbook. Smith, James Dale - University of Kansas; bat acoustics; California State University; Trinidad; Venezuela; Holgate detector. Smith, Jane C. - Queen Mary College; London; use of image in article. Smith, Jeri D. - bat spiraling. Smith, G. Maskill - New Zealand Scientific Liaison Office; birds and supersonic sound. Smith, Ralph and Todd (wife) - Aviation Medicine; U.S. Air Force; University of California-Berkeley; Payne Pearson; University of Glasgow; Scotland; Aviation Medicine, Randolph Field, Texas; . Smithsonian Institution - National Zoological Park; Ernest P. Walker; bat supply; films; A. Wetmore. Smullin, David - Alaska; job assistance. Smyth, Dermot M. - James Cook University of North Queensland; Long Pocket Laboratories; Australia.

Sn-Sz box 12 folder 116

## **Scope and Contents**

Snake King - supplier of birds and animals; Texas. Snow, Edward R. - Sable Island fauna; Massachusetts. Snow, Thomas J. - translator of Russian publications. Snyder, Russell L. - Physical Oceanographic Laboratory, Nova University; bird navigation; whitecap sounds; Torre-Bueno. Solomon, Richard L. - Harvard University Laboratory of Social Relations. Spaet, Bernate - Cornell University student; Columbia University. Spear, Philip J. - National Pest Control Association; rats and ultrasonic noise. Speidel, Carl C. - University of Virginia; films. Sperry Gyroscope Company - bird navigation; navigating instruments. Speirs, J. Murray - bird navigation; meteorology; Ontario, Canada. Stabler, Robert M. - University of Pennsylvania; owls; Philadelphia Zoological Garden. Stack, C. R. - bird hearing; infrared light; Instituto Neurologico de Colombia; Jaime Gomez. Steel, Liza - bird equilibrium. Stein, David - bat detectors; Argentina; New York Zoological Society. Stetson, Harlan T. - homing pigeons and radio waves; U.S. Signal Corps. Stewart, James L. - Naval Electronics Laboratory; bats and echoes. Stewart, K. R. - high frequency sound waves. Stewart, Rodney Mason - poem. Stewart, Walter - Rockefeller University; National Institutes of Health; wildfire toxin. Stiles, Mabel - banded bird . Stokes, Allen W. - Trinidad; Tobago; birds. Stone, G. C. "Didi" - Harvard University; film. Stone, Jeannette Galambos - Vassar

College; Sarah Lawrence College. Stone, L. S. - Yale University; film. Stong, C. L. - ultrasonic sounds of bats; Scientific American; David Pye; circuit amplifier. Storrs, Eleanor E. - Gulf South Research Institute; armadillos. Straw, Richard M. - insect versus human eyes; Rancho Santa Ana Botanic Garden. Streicher, Eugene - University of Chicago; bird navigation; see also U.S. Army Chemical Center. Strelkov, P. O. - Academy of Sciences; Leningrad, Russia. Stresemann, Erwin - Zoologisches Museum; Germany; bird orientation. Strohl, I. - bats; Switzerland; Zoological Institute. Strong, Susie - friend. Strupp, Barbara - Cornell University. Stuart, Alastair M. - National Institutes of Health; Australia; . Suga, Nobuo - Washington University; DRG research associate; Rockefeller University. Summers, D. M. - University of Victoria; bird eyes. Supa, Michael - International Business Machines; experiments with blind. Svendsen, Gerald E. - Ohio University; pika and hay. Swan, Lawrence W. - San Francisco State College; radar bird watching in India. Swarthmore College - Honors examiner; L. R. Shero.

Schaefer, Glen W.	box 12	folder 117	
Scope and Contents			
England; University of Technology; bird migration; New Brunswick, Canada; radar; Woods Hole			
Schmidt-Koenig, Klaus	box 12	folder 118	
Scope and Contents			
Universitat Tubingen; bird navigation			
Schmidt-Nielsen, Knut	box 12	folder 119	
Scope and Contents			
University of Cincinnati; sensory physiology; Duke University; Pete Scholander			
Schnitzler, Hans- Ulrich	box 12	folder 120	
Scope and Contents			
Zoophysiologisches Institut; Tubingen; Germany; Alvin Novick; Yale University; Rockefeller University; National Science Foundation; bat echolocation; James Simmon; New York Zoological Society; Trinidad; J. W. Goethe Universitat			
Simmons, James	box 12	folder 121	

## **Scope and Contents**

Acoustical Society of America; bat echoes; Beebe Tropical Research Station; Brown University; Ed Buchler; Colombia; Fachbereich Biologie; Brock Fenton; Germany; Jamaica; Tony Lavender; Beatrice Lawrence; Millbrook, NY; J.

folder 122

Molinari; National Science Foundation; New Guinea; Panama; Princeton University; sound recording equipment; Nobua Suga; Susi Torre-Bueno; Trinidad; U. S. Department of Health and Human Services; University of California, Berkeley; University of Oregon; Washington University; Woods Hole:

Singer, Marcus box 12

## **Scope and Contents**

House Un-American Activities Affairs Committee; communism; Cornell University; Harvard University; Howard Adelmann; George Adams; Paul O'Leary;

Sokolov, Vladimir box 12 folder 123

## **Scope and Contents**

Harvard College; International Student Service; Alden H. Miller; Moscow University; Rockefeller University; J. Schwartzkopff; University of California-Berkeley; USSR Academy of Sciences; see also Konstantinov

Steen, Johan B. box 12 folder 124

## **Scope and Contents**

pigeon homing; University of Tromso; Norway; Rockefeller Foundation; University of Oslo; Harold T. Ted' Hammel; Pete F. Scholander; Harvard University; Office of Naval Research;

Suthers, Roderick A. box 12 folder 125

### **Scope and Contents**

Alpha Helix; bats; Beebe Tropical Station; birds; Julia Chase; Chillagoe; equipment; Indiana University School of Medicine; Konstantinov; Andrew Meyerreicks; National Institutes of Health; National Science Foundation; New York Zoological Society; Alvin Novick; David Pye; Queensland; Scripps Institution of Oceanography; Simla; Trinidad; U.S. Public Health Service; Richard Wylie;

Ta-Ty box 13 folder 126

### **Scope and Contents**

Taber, Wendell - Frances Burnett; Minnesota Mining; . Tamkin, Arthur S. - Veterans' Administration Hospital; bird conditioning experiments; Skinner; Yeagley; pigeon orientation. Tatum, Edward L. - Rockefeller University; Philosophical Society. Tavolga, W. N. - Mote Marine Laboratory; fish acoustic orientation. Taylor, Bonnie - Phoenix Zoo; Edinburgh Zoo; Scotland; dog and horse communication; blind children; Rockefeller University. Taylor, C. Richard - Harvard University Museum of

Comparative Zoology; Jose Torre-Bueno. Taylor, Robert - citations. Teakle, Harold P. - E. J. Maxwell Lumber; bat sight. Telesonic Systems - bats and sound waves; Carlsbad Caverns; National Park Service. Terres, John K. -National Audubon Society; bats and tall buildings, radio/TV wave effects. Test, Frederick H. - University of Michigan; Venezuelan bats. Teuber, Hans-Lukas - Massachusetts Institute of Technology; bird navigation. Thaeler, Charles - Earlham College; Cornell University. Theodorides, J. -Museum National (No Suggestions) Naturelle; Paris; bats; Harvard University; cave photos. Thomas, Don - University of Washington; old forests and bats; kite-balloon; kytoon; . Thomas, Steven P. - bat supplies; bird tracking; Duke University; Duquesne University; Robert Mackie; National Science Foundation; Alvin Novick; James Simmons; Jose Torre-Bueno; Trinidad; wind tunnel. Thomas, Stiles - Rich Penney; Society for the Preservation of Birds of Prey; hawk migration; Ron Larkin. Thomas, Thurlo B. -Phillips Exeter Academy; William Harvey. Thompson, E. Fontelle - University of South Carolina. Thompson, M. N. - United Kingdom Meteorological Office; bird orientation. Thompson, W. F. - University of Washington Fisheries Research Institute; salmon homing; . Thompson, William R. - Cone Island, Maine; gulls. Thomson, Sir Landsborough - London; reprint. Thorpe, William H. -University of Cambridge; Harvard University; Pennycuick; Hatch; radio transmitters for birds; Poland; Ibis; Trinidad; Cornell University. Thurston, E. G. - Batelle Memorial Institute; transducer equipment. Timm, C. - Universitat Mainz; Germany; bat and moth echolocation; World War II. Tinbergen, Nikolaas - Ruksuniversiteit te Leiden; bird homing; . Tomasi, Thomas - University of Rhode Island; shrew echolocation; sound equipment. Topal, G. -Hungarian Natural History Museum; bat migration; Calvin Stillman; Harvard Ornithological Club. Torre-Bueno, Jose - Duke University; Woods Hole; bird flow patterns. Torrey, Henry - Rutgers University; bird navigation; physics. Tosteson, Thomas - University of Puerto Rico. Tracerlab - J. Kohl; radioactive isotopes in bird migration. Tracy, C. Richard - University of Wisconsin; Hammel; heat loss from mammals. Treat, Asher - bat ultrasonic cries; bat visual acuity; moths; City College, New York; Sir Cyril A. Clarke. Trembley, F. T. - Lehigh University; owls. Trempe, Duke - birds; Michigan. Tuck, Leslie - Canadian Wildlife service; bird navigation. Tucker, Richard - University of Queensland; Australia; veterinary science; bat orientation. Tucker, Vance A. - Duke University; bird gliding versus flapping; radar; Torre-Bueno; Millbrook, NY; NASA; wind tunnels; American Philosophical Society;. Tufts, Robie W. - bird migration; Bay of Fundy; Canada. Turner, Dennis C. - Johns Hopkins University; bat ecology. Turner, Ruth - Clapp Laboratories. Tuttle, Merlin D. - Milwaukee Public Museum; bat migration. Twente, John W., Jr. -University of Michigan; bat orientation. Twersky, Victor -New York University; guidance device for blind; audible click equipment. Twitty, Victor C. - Stanford University;

homing of newts. Tyack, Peter - dolphins; France; Woods Hole.

Trapido, Harold box 13 folder 127

## **Scope and Contents**

see also Projects-Panama; see also Projects-Bat Banding; Cornell University; bat banding; bat longevity; Canal Zone Corrosion Laboratory; Empire Devices; Gorgas Memorial Institute of Tropical and Preventive Medicine; Ed Gould; India; mines; Panama; U.S. Naval Station; Bill Wimsatt; Rockefeller Foundation

Trotter, Eleonora D'Arms box 13 folder 128

## **Scope and Contents**

Rockefeller University; balloon capture of bird sounds; bird mobbing behavior; University of New Mexico; University of Washington; Queensland; Bohemia Lumber Co.; New York Zoological Society; Garrett Eddy; Roy Talmage

U-V box 13 folder 129

## **Scope and Contents**

Udvardy, Miklos D. F. - University of British Columbia; radioactive tagging; recording equipment. Ulmer, Frederic A., Jr. - Zoological Society of Philadelphia; echolocation. Utter, Katharyn - University of Washington; gibbons. Van Cleve, R. - University of Washington; salmon; U.S. Army Corps of Engineers; Alaska; Lissmann; Vladimir Walters; Breder; Raney; Easton. Van der Kloot, William -Lalor Foundation; Cornell University. Van Gelder, Richard G. - University of Illinois; Museum of Natural History, Kansas; bat collection; Alvin Novick; Sben Dijkgraaf; see also Publishers. Van Riper, Walker - Colorado Museum of Natural History; birds. Van Tilla, Marvin - bird navigation. van Tyne, Josselyn - University of Michigan; birds. Varma, D. P. - Dalhousie University; Canada; bats; . Vencl, Frederic V. - birds. Venn, Mary Adrian - bees. Verduin, Mrs. E. bats in France. Villa-Ramirez, Bernardo - Mexican Wildlife Service; Yucatan visit; radar; kite balloons; sound recording. Vinalhaven Port District - ferries; Maine. Vleugel, D. A. - Holland; The Hague; birds. Voelker, John D. - bat radar and spinning fishing rods. Vogel, Howard H., Jr. -Vanderbilt University; radio tracking birds; University of Tennessee; Point Barrow, Alaska; Charles Walcott; Bermuda. von Gierke, Henning E. - Wright-Patterson Air Force Base, Ohio; Aero Medical Laboratory; furred animals. von Holst, Erich - Max Planck Institut. von Saint Paul, Ursula - Duke University; Rawson; Mayr. Voute, Aldo M. -Rijksuniversiteit; Holland; Holgate instruments.

Unidentified box 13 folder 130

Alden; Floyd; Fred; Garth; Harriett; Ian; Jane; Johann; Louise; Mattiot; Rosamund; Ruth; Stacey (Hustace); Warren; Barnard College; Centre National de la Recherche Scientifique; Phillips Academy; Kenyon College; Harvard University; Milton Academy; UCLA; University of California-San Diego; University of London; Yale University

U.S. Agencies box 13 folder 131

## **Scope and Contents**

Aberdeen Proving Ground; Agricultural Research Service; Air Force Office of Scientific Research; Alaska; Army Chemical Center; Army Ordnance Department; Bureau of Biological Survey; Carlsbad Caverns; Department of Health, Education, and Welfare; Federal Security Agency; Fish and Wildlife Service; Harvard University Fatigue Lab; Irwin Goldstein; MIT; Midway Atoll; Military Air Transport Service; National Institute of Health; National Oceanic and Atmospheric Administration; National Park Service; Navy Bureau of Aeronautics; Public Health Service; South Pacific Fisheries Investigations; Southwest Rabies consultation; Billings; Denny Constantine; David B. Dill; H. F. Fraser; H. Frings; I. A. Getting; Freeman F. Hall; Arthur Hasler; Blanche Johnson; Thomas H. Johnson; Donald Kennedy; Herman Kleerekoper; William Krummes; John Marr; W. L. McAtee; James Moulton; Sidney Newman; Streicher; Joseph F. Winkler; aircraft damage by birds; bird orientation; mammalogy;

United States Office of Naval Research box 13

#### **Scope and Contents**

American Museum of Natural History; bird and bee homing; Canal Zone; Cornell University; Mt. Hope Mine; Naval Medical Center; Panama; Rockefeller University; Shahmoon Industries; Zoologisches Institut; Lester Aronson; H. M. Auerbach; S. Galler; Arthur Hasler; H. T. Meryman; Novick; Don Schneirla; C. W. Shilling; Trapido; Richard Tousey; Von Frisch;

Von Frisch, Karl box 13 folder 133

folder 132

## **Scope and Contents**

American Philosophical Society; Cornell University; Nobel Prize; Rockefeller Foundation; U. S. Department of Agriculture; Yale University Press; Zoologisches Institut der Universitat, Germany; bees; Niels Bohr; Viktor Hamburger; Hasler; August Krogh; library resupply; Anne Roe; U.S. lecture tour; Roberta Yerkes; see also U.S. Office of Naval Research;

Wa-Wh box 14 folder 134

## **Scope and Contents**

Wacker, Peter - Elizabeth Marsh; Julia Chase; Rutgers University; Society of Women Geographers. Wagner, Charles N. - bat sound transmission. Walker, Gene B. -University of Oklahoma; atmospheric acoustics; NOAA; NASA. Walker, Paul A. - Randolph-Macon Woman's College. Walker, Theodore J. - McMaster University; Altec Corp.; fish noises; Scripps Institution for Oceanography; University of California; John Hilliard; Kleerekoper; William Cheville; Woods Hole. Wallace, John D. -Thomas Jefferson University Hospital; microphones. Wallingford, Daniel Kirkwood - industrial design; Cornell University; maps. Wallraff, Hans G. - Max Planck Institut; conditioned heart rate method. Walsh, Raymond R. -American Physiological Society; University of Colorado; Brookhaven National Laboratory; Cornell University; Northwestern University; sensory physiology. Walter, H. William - luminous bands. Walter, Waldemar M. - bird homing; radio transmitting stations; U. S. Army. Warner, Walter R. - Canton Center Congregational Church; bats in church. Waser, Peter - Purdue University; primate vocalization. Washburn, Sherwood L. - University of Chicago. Waterman, Talbot H. - Yale University; Cornell University. Watkins, Elwyn Mrs. - bats in house. Weatherly, W. Paul - Rockefeller University; Sri Lanka; U.S. Agency for International Development; flying fox; Millbrook, NY; Academy of Natural Science, Philadelphia. Webb, George -Woods Hole. Webb, Glenn R. - University of Kansas; radio waves. Weisz, Paul B. - Brown University; bat and fan. Welch, William A. - hawk migration; motor glider; Smirnoff Vodka; Connecticut Audubon Council. Welker, W. I. -University of Wisconsin; bat auditory system. Weller, Thomas H. - Boston Children's Hospital; bat research; rabies. Welsh, John H. - University of Cambridge; Harvard University; bat research; see also Harvard Biological Laboratory. Welter, Wilfred A. - Morehead State Teachers College; bat banding . Wendt, G. R. - University of Rochester; motion sickness. Wenzel, Bernice M. - UCLA; Papi; pigeon homing. Westby, G. W. Max - Centre National de la Recherche Scientifique, France; electric fish behavior. Westenberg, J. - Netherlands Zoologisch Station, Holland; fish acoustics. Wever, E. G. - Princeton University; sound instruments; auditory sensitivity of insects. Wheeler, Bernice - Yale University; bat film. Whitacre, David -University of California, Davis; bat falcon.

Wi-Wy box 14 folder 135

Wiesel, Torsten N. - Harvard Medical School; Society for Neuroscience; Federal funding; National Institutes of Health; Martha Constantine-Paton. Wiley, Haven -University of North Carolina; sound transmission; Axel Michelson; . Willams, C. B. - Rothamsted Experimental Station, England; bird navigation. Williams, Carroll M. - Harvard University; insect endocrinology. Williams, Clarence J. - bat book; Air Force counter-measure. Williams, Timothy and Janet - see also Projects-Beebe Tropical Station and Woods Hole; State University of New York, Buffalo. Wilson, David Sloan - Michigan State University; evolutionary theory. Wilson, Don E. -University of New Mexico; bat homing; U.S. Fish and Wildlife Service; National Museum of Natural History; Costa Rica. Wilson, Thomas - birds and Allentown airport tower. Wilsson, Lars - beaver behavior; Sweden. Wing, Leonard - State College of Washington. Wingate, David B. - Bermuda Department of Agriculture and Fisheries; NASA radar project; bird migration; Jeremy Hatch. Winn, Howard E. - University of Maryland; echolocation. Wittenberg University - Powelson, Elizabeth E.. Wodzicki, Count K. A. - Consulate General, Poland; bird homing; R. J. Wojtusiak; New Zealand Department of Scientific and Industrial Research. Wojtusiak, R. J. - University of Cracow; bird navigation; K. A. Wodzicki. Wolf, Ernst - Wellesley College; von Frisch. Wolfson, Albert - Northwestern University; ornithology book. Wood, Meridth, Jr. - kites; Millbrook, NY. Wood, Sherwin F. -Los Angeles City College; bat diseases. Woodbury, Angus M. - University of Utah; pelican nesting sites; migration theory. Woodbury, David T. - Psycho-acoustic laboratory; Merck and Co.. Woodcock, Alfred - University of Hawaii; NASA radar; Woods Hole; Alpha Helix; bird navigation; Duncan Blanchard; Atmospheric Sciences Research Center; Office of Naval Research; State University of New York, Albany; Alfred Redfield. Wood-Gush, David G. M. -Poultry research Center; Scotland. Woolf, Nigel - Cornell University; bird echolocation; Alpha Helix; tape recordings. World Wide Broadcasting Foundation - brochure. Worth, C. Brooke - Rockefeller Foundation; bird migration and stars; Cape May, NJ property. Wright, Albert Hazen and Anna -Penikese Island. Wright, Nellie M. - bats in various states. WVHC Radio Station - Hofstra University; animal to man communication program. Wylie, Richard M. - Walter Reed Army Medical Center; sub-auditory sound. Wyman, Louise - bats in house.

Walcott, Charles box 14 folder 136

## **Scope and Contents**

Cornell University; pigeon homing; animal thinking; Martin Michener; State University of New York, Stoney Brook; National Geographic Society; bat films; New York Zoological Society

Wimsatt, William box 14 folder 137

## **Scope and Contents**

Cornell University; Harold Trapido; Carl Engler; P.E. Crowe; tropical bats; Brookhaven National Laboratory; Mexico; Life Magazine; Beebe Tropical Station, Trinidad; John H. Hughes; U.S. Public Health Service; see also Publishers-Academic Press, Inc.

X-Z box 14 folder 138

## **Scope and Contents**

Yacobi, V. E. - USSR Academy of Science; Torre-Bueno; bird navigation and radar. Yarmouth Town, Massachusetts - bounties for seals. Yarwood, T. M. - England; ultrasonic bat sounds. Yeagley, Henry L. - homing pigeon orientation; Pennsylvania State College; National Science Foundation; Army Signal Corps; Office of Naval Research. Yerkes Regional Primate Research Center - Duane M. Rumbaugh; language formation studies. Yerkes, Robert M. - Yale University; von Frisch; . Yonge, C. M. - University of Glasgow; Herbert Hillman; University of California. Zander, H. A. - Tufts College Dental School; bat experiments with tissue drug reaction. Zhukov, Dr. - Konstantinov; USSR; Leningrad University; . Zuloaga, Guillermo - Venezuela; acoustic orientation of guacharos; photographs.

Yodlowski, Marilyn box 14 folder 139

## **Scope and Contents**

Harvard Medical School; pigeon sound sensitivity; Woods Hole; Johns Hopkins University; Fernando Nottebohm; T. J. Sejnowski; Rockefeller University; Carl Pfaffmann; Kreithen; Cornell University; Grass Polygraph

## ^ Return to Table of Contents

## **Projects**

## Arrangement

Alphabetical by name of project.

## **Scope and Contents**

Series 2 contains correspondence regarding projects not part of routine work at Cornell, Harvard, or Rockefeller University that have a sufficient quantity of pertinent documents to warrant separation.

#### Adams Bat Bomb -

In 1942, while a research associate at Harvard, Griffin conducted preliminary research to determine the viability of using bats to carry small bombs. Although he concluded that the project was not feasible, the idea's promoter, Lytle Adams, continued to pursue his proposal and the concept gained considerable public attention.

Arctic Aeromedical Laboratory -

During the winters of 1950-51, 1951-52, and 1952-53, Griffin and his assistants studied effects of wind on insulation of fur in animals, gastro-intestinal tract heat production, and other aspects relevant to man's ability to survive in cold temperatures. Research was conducted under Air Force contract AF 33(038)-12764, at Ladd Air Force Base, Fairbanks, Alaska.

Arctic Research Laboratory/Arctic Institute of North America -

In the summer of 1947 and 1948, Griffin conducted homing experiments studying bird orientation and sensory physiology. Work was funded by the U.S. Office of Naval Research and based at Point Barrow, Alaska.

Alpha Helix Expedition -

In the summer of 1969, Griffin began a four-month trip to New Guinea on the vessel Alpha Helix (owned by Scripps Institution of Oceanography) where he studied bats and cave swiftlets. The expedition was operated by the University of California with funding from the National Science Foundation. Griffin was in the crew headed by George Bartholomew that included fellow scientists Jocelyn Crane (Griffin's wife), Jared Diamond of UCLA, Alan Grinnell of UCLA, Susumu Hagiwara, Bodil Schmidt-Nielsen, and Hobart van Deusen.

Austin Ornithological Research Station -

Over the course of several years beginning in 1933 and extending into the mid-1950s, Griffin banded birds, primarily terns and herring gulls, on Penikese Island, Massachusetts observing obstacle avoidance and homing instincts. The studies were done in conjunction with Griffin's university affiliations and Woods Hole Marine Biological Laboratory.

Bat Banding -

Griffin began banding bats while a high school student and continued for at least two decades, finding colonies in mines and caves throughout the Northeast and in Kentucky, Ohio, Pennsylvania, and Canada. Data about banded bats was still being returned as late as 1956 and informed new understanding of bat longevity, hibernation, and migration. Some of the banding activities were conducted in connection with Woods Hole Oceanographic Institution and correspondence about that work is included in the Bat Banding project folder.

Beebe Tropical Research Station -

Between July 1960 and August 1969, Griffin made several trips to the Beebe Tropical Research Station in Simla, Trinidad studying bat visual detection and echolocation and fish-catching bat abilities. The Station was operated jointly with the New York Zoological Society and some of the research was funded by the National Science Foundation. Griffin's wife, Jocelyn Crane, conducted research into fiddler crab behavior there. Griffin and Crane shared responsibility for the facility's scientific work.

Bowdoin Scientific Station -

Beginning in the 1930s and continuing into the 1950s, Griffin and colleagues took trips to the Bowdoin Scientific Station's Kent Island facility in the Bay of Fundy, New Brunswick, Canada where they studied bird homing and navigation, especially in petrels and gannets.

### Chillagoe Expedition -

In summer 1980, Griffin was one of several international scientists in the Chillagoe Expedition, a U. S. National Science Foundation sponsored trip to Queensland, Australia for the study of sensory physiology and perception in bats, bowerbirds, and cave swiftlets.

Huyck Preserve -

In 1939, Griffin received a summer fellowship at the Edmund Niles Huyck Preserve in Rensselaerville, New York, and later published journal articles based on his bat banding and research there.

#### Panama -

In the spring of 1953, Griffin and a Harvard student, Prentice Bloedel ("Pen") spent two months researching and filming tropical fish-catching bats in Panama. Bloedel continued for a few more months. Griffin's former student, Harold Trapido with the Gorgas Memorial Laboratory in Panama was a key contact for the project. Griffin periodically imported bats from there and some of his students visited to research. The U.S. Office of Naval Research sponsored some of Griffin's work in the Canal Zone.

Woods Hole Oceanographic Institution -

Beginning as early as 1945 and extending into the 1970s, Griffin conducted independent research, usually during summers, at Woods Hole investigating a variety of topics including bat navigation, bird orientation, and radar tracking. The U.S. Office of Naval Research supported Griffin's research on bat radar in the summer of 1953 and a few years earlier when he investigated fish hearing. Correspondence about bat banding and monitoring activities based from Woods Hole is included in the Bat Banding project folder. Although not connected to a specific project, correspondence related to Griffin's service as an Associate in Physiology of the WHOI is included in this folder.

Title/Description	Instances	
Adams Bat Bomb	box 14	folder 140

## **Scope and Contents**

Lytle S. Adams; J. C. Von Bloeker; James B. Conant; Harvard University Psycho-Acoustical Laboratory; Los Angeles City College; True Magazine; Jim Chester; National Defense Research Committee

Alpha Helix, New Guinea

box 14

folder 141

## **Scope and Contents**

American Museum of Natural History; George Bartholomew; bat and bird orientation; Theodore Bullock; Jared Diamond; Alan Grinnell; Susumu Hagiwara; Tom Harrisson; Ernst Mayr; H. Elliott McClure; National Science Foundation; New Guinea; New York Zoological Society; Northeastern Bird Banding Association; Bodil Schmidt-Nielsen; Per Scholander; Scripps Institution of Oceanography; Otto Soemarwoto; Charles Sibley; Rod Suthers; University of California, San Diego; Universitat Munchen; Gregorio T. Velasquez; Hobart van Deusen; Peter

and Helen Waser; Zweifel;

Arctic Aeromedical Laboratory

box 14

folder 142

Cornell University; Fairbanks, Alaska; insulation physiology; Ladd Air Force Base; Leeds and Northrup Co.; Office of Naval Research; Alan Burton; Harold Theodore Hammel; J. H. Heim; Major Andres Karstens; Harry Johnson; Kenneth Rawson; Kaare Rodahl; Peter Morrison, University of Wisconsin; University of Western Ontario

Faculty of Medicine; Wood;

Arctic Research Laboratory

box 14

folder 143

## **Scope and Contents**

Point Barrow, Alaska; bird orientation; Office of Naval Research; Per Scholander; Woods Hole Oceanography Institute; Kenneth Rawson; Col. Walter Wood; Harold Theodore Hammel; Cornell University; Raymond J. Hock;

Martin Karplus; British Joint Services Mission;

Austin Ornithological Research Station

box 15

folder 144

## **Scope and Contents**

Oliver L. Austin, Sr.; Maurice Brown; Fred Packard; Cape Cod, MA; Penikese Island; Maine; New Brunswick; bird banding; Massachusetts Division of Fisheries and Game; U.S. Biological Survey; Seth Low; U.S. Fish and Wildlife Service

**Bat Banding** 

box 15

folder 145

## **Scope and Contents**

Audubon Nature Center; Bird-Lore; Boy Scouts of America; Carnegie Institute; Chester Emory Mines; Dartmouth College; Dick Dow; John S. Hall; Harold B. Hitchcock; Richard Kolseth; Robert S. Luce; Mashpee Indian; Massachusetts Department of Conservation; Middlebury College; Mohonk Mountain House; National Band and Tag Co.; National Museum of Natural History; New York State College for Teachers; New York State Museum; Philadelphia Zoological Gardens; Phillips Academy Nature Club; pigeons; Royal Ontario Museum of Zoology; Werner Ruppell; Salt Lake Stamp Co.; Harold Trapido; U. S. Department of Interior; University of Massachusetts; University of New Hampshire; University of Western Ontario; Richard L. Weaver; Woods Hole; Worcester Natural History Society; Zoologisches Museum, Berlin;

Beebe Tropical Research Station

box 15

folder 146

#### **Scope and Contents**

Simla, Trinidad; bats; butterflies; crabs; Michael Beecher; Jack Bradbury; Marc Buchanan; Kay Campbell; Julia Chase; Jocelyn Crane; Dorothy Dunning; Paul Ehrlich;

Michael Emsley; Sir Lindsay Grant; John Hall; Jeremy Hatch; Nina Leen; Inger; H. Markl; Rich Penney; William Stiles; Nobuo Suga; Rod Suthers; Timothy and Janet Williams; William Wimsatt; National Science Foundation; New York Zoological Society; Rockefeller University;

Time-Life;

**Bowdoin Scientific Station** 

box 15

folder 147

## **Scope and Contents**

bird homing; Kent Island; Bay of Fundy, New Brunswick, Canada; J. W. Blunt; Edgar Folk; Dr. Gross; Rex Harris; Charles Huntington; Ernest Joy; Henry Kittredge; New Brunswick Museum

Chillagoe Expedition

box 15

folder 148

## **Scope and Contents**

bats; bowerbirds; Peter Dwyer; Leslie Hall; Jim Simmons; Dermot Smyth; Rod A. Suthers; David Thompson; Cliff and Dawn Frith Prionodura; Indiana University; National Science Foundation

Huyck Preserve

box 15

folder 149

## **Scope and Contents**

Cornell University; Harvard University; New York Division of Fish and Game; Bradbury, Bump, Dalgleish; Lincoln Pond; G. E. Folk; William Hamilton, Jr.; Thomas Ordway, M.D.; see also Projects-Bat Banding

Panama

box 15

folder 150

## **Scope and Contents**

bat acoustics; Prentice Bloedel (?Pen?); John H. Hughes; Al Novick; Harold Trapido; William Wimsatt; Canal Zone Corrosion Laboratory; Empire Devices; Gorgas Memorial Laboratory; Office of Naval Research; U.S. Public Health Service:

Woods Hole Oceanographic Institution

box 15

folder 151

#### **Scope and Contents**

bats; birds; dolphins; whales; Bronx Zoo; Millbrook; New York Blood Center; Office of Naval Research; Randolph Air Force Base; Richard Backus; Andrew Bunker; Helen Clark; Cameron Gifford; Judith Grassle; Brackett Hersey; A. J. Kalmijn; John Kanwisher; Ron Larkin; Elizabeth Redfield Marsh; John M. Teal; Jose and Susi Torre-Bueno; Peter Tyack; Timothy and Janet Williams; Jeffries Wyman

#### ^ Return to Table of Contents

### Lab Books

### Arrangement

Lab books are arranged in numerical order when numbers were shown; otherwise, books are in chronological order with the oldest date first. Oversize files are physically arranged together in a dedicated box.

## **Scope and Contents**

Lab Books are handwritten records of scientific observations and experiments and often include machine printouts and photographs showing results of particular tests. In addition to lab books kept as part of routine work at Cornell, Harvard, and Rockefeller Universities, some are for separate projects including the Alpha Helix Expedition and Beebe Tropical Research Station. Some books are titled with brief descriptions of their contents: jamming experiments, underwater sound, bats hitting targets, wind tunnel experiments, human echolocation, ground echolocation, and grid echoes.

Books kept by laboratory assistants are included and their names are shown when indicated on the book covers. Abbreviated descriptions of contents are shown in the box/folder listing as written on the front of lab books. Some lab books include typewritten summaries of experiments that appear to be drafts for publication. A few have pages inserted with later dates that appear to be reviews of earlier work. Photographs and machine printouts remain with the original lab books in order to preserve valuable context.

A handwritten note in file shows "Loaned to Nigel V. Woolf Cornell Notebooks 20, 21, 23" and those notebooks are not included in this collection. Numbers 19, 25, and 41-50 are also missing. It is possible that some of the unnumbered ones were intended to have the missing numbers.

Title/Description	Instances		
11944 December 7-1946 March 23	box 16	folder 152	
2: 1946 March 28-December 26 (added material re bat pulse 1949-50s), 1946 March-December, 1949-1950	box 16	folder 153	
31946 November-1948 December	box 16	folder 154	
41948 December 7-1949 July	box 16	folder 155	
51949 July 16-1950 May 3	box 16	folder 156	
61950 May 20-December 5	box 17	folder 157	
7: 1950 June 1-August 29 "Underwater sound, etc.", 1950 June 1-August 29	box 17	folder 158	
8: "Bats", 1951 March-July 13	box 17	folder 159	
9: "Bats", 1951 July 20-1952 March 4	box 17	folder 160	
10: "Bats", 1952 March 4-May 15	box 18	folder 161	
11: "Bats", 1952 June 17-August 12	box 18	folder 162	

12, 1952 October 22-1943 March 27	box 18	folder 163
13: 1953 May 5-June 19 "Bat Flight plus Bat sound records and bird homing obs. Summer '53", 1953	box 18	folder 164
14, 1953 June 19-August 30	box 19	folder 165
15, 1953 November-1954 June 29	box 19	folder 166
16: "Bats", 1954 June 30-August 16	box 19	folder 167
17, 1954 August 23-1955 January 10	box 20	folder 168
18: "Bats", 1955 June 5-August 14	box 20	folder 169
22: "Bats - Plecotus and Myotis flight and Jamming Expts", 1957 June 28-November 13	box 20	folder 170
24: "Bats - Myotis and Eptesicus jamming, Plecotus search for higher frequencies", 1958 June 28-1959 January 7	box 20	folder 171
26 "J. J. G. McCue and R.E. Richardson", 1959 January 23- December 15	box 20	folder 172
27: "Bats- Insect catching Webster Lab - Charles R. Michael", 1959 May 28-December 17	box 21	folder 173
28: "Clarke R. Slater, Animal Orientation-Bats, Myotis jamming and End wall", 1959 June 23-August 29	box 21	folder 174
29: "Charles Reid Michael - High and Low Frequency Jamming", 1959 July 16-August 24	box 21	folder 175
30: "Bats, Jamming", 1959 August 28-1960 February 27	box 21	folder 176
30A: "Bat Flight Data- raw data", 1960 February 1-April 27	box 21	folder 177
31: "Jamming", 1960 March 9-April 27	box 21	folder 178
31A: "Plecotus - movies for distance of detection" with later notes, 1960 April 19-May 20	box 21	folder 179
32: "Plecotus in noise, tabulations, Nancy Griffin's work", 1960 April 26-28	box 22	folder 180
33, 1960 April 27-July 9	box 22	folder 181
34: "Noctilio, Simla", 1960 July	box 22	folder 182
35: "Zoological Laboratory, U. of Cambr.", 1960 October-1961 May 15	box 22	folder 183
36: "Trinidad", 1961 July 10-August 31	box 22	folder 184
37: 1961 September 21-1962 March 31; "Noctilio 1961 and 1962 Cambridge including XII and inf lar.Sectioning" Simla, 1961-1962	box 22	folder 185
38 - 1961 June 23-July 31 "Bat tape Catalogue, Dunning; Trinidad Summer 1960; 1961 January 22 England", 1960-1961	box 23	folder 186

39 - 1961 July 31 and 1961 January England "Bat tape Catalogue, Dunning", 1961 January and July 31	box 23	folder 187
"Judith Friend: Disks, Sonar Discrimination Myotis lucifugus", 1962 June 1-August 16	box 23	folder 188
"Judith Friend: Disks, Sonar Discrimination Myotis", 1962 August 17-1963 January	box 23	folder 189
"Judith Friend - Preliminary Cylinder expts.", 1964 Spring	box 23	folder 190
"Judith Friend: Disk Experiments I, Bat flights tossed and hanging targets", 1964 Spring	box 23	folder 191
"Judith Friend: Disk experiments II", 1964 Spring	box 23	folder 192
1964 September and 1966 July-August - "Judith Friend: Last Best Harvard Echo discrimination data", 1964 September, 1966 July- August	box 23	folder 193
"M. Flinn: Directional Measurements Book II", 1965 March 13	box 24	folder 194
"Wind tunnel expts.", 1967 May 17-December 13	box 24	folder 195
52: "Prints of Bat pulses and information concerning them, Record of spectrograms", 1968 April 10-19	box 24	folder 196
AH 1: Alpha Helix, 1969 June-July	box 24	folder 197
AH 2: 10 June-21 Dec. 1970 July 1969 Alpha Helix - "New Guinea Bats", 1969 July, 1970 June 10-December 21	box 24	folder 198
1974 July 12-November 9	box 25	folder 199
GE 1: "Grd. Echos", 1974 November 9-11	box 25	folder 200
GE 2: "Grd. Echos", 1974 November 9-11	box 25	folder 201
H.E. 1, 1975 November 18-1981 January 31	box 25	folder 202
"Human Echolocation Test Sheets", 1980 January-March	box 25	folder 203
1975 May - "Pulse and Echoes" and 1980 Spring - "Human Echolocation duplicate prints and negatives", 1975 May, 1980 Spring	box 25	folder 204
40: 1961 June 23 - "Bat Movie Film Catalogue, - Dunning" "Trinidad - Summer 1960; England 1960-1961", 1960-1961	box 26	folder 205
Simla, Trinidad, 1966 June 13-Aug 1966	box 26	folder 206
51, 1967 October 10-1968 March 29	box 26	folder 207
Ground Echoes, 1974 November 2-16	box 26	folder 208

## ^ Return to Table of Contents

# **Publications**

Series 4 includes newspaper and magazine clippings as well as scientific reprints and other publications by Griffin and fellow scientists. The Newspaper and Magazine articles folder has an article about Theodore Hammel who worked on the atom bomb in Los Alamos, MN and subsequently changed his graduate studies from physics to physiology as a result of hearing a lecture by Griffin. Newspaper and magazine articles address various aspects of Griffin's work for a general public audience—bat "radar," animal communication, bat diseases, "bat bomb." Some have interviews with Griffin, his students, or fellow scientists. A few are clippings of bats in advertisements or comic strips and some articles are in German and Spanish language publications.

A list of Griffin's publications through 1988 is at the front of the first folder of "Articles, Reprints, Reviews-by Griffin."

This collection does not contain a complete set of all of his publications.

#### Arrangement

Newspaper and Magazine Clippings are arranged in chronological order with newest date first. Items with no date are at the end of the folder. Publications by Griffin as author or co-author are in chronological order with newest date first. Publications by others are in alphabetical order by surname of first author.

Title/Description	Instances		
Newspaper and Magazine Articles	box 26	folder 209	
Griffin, Animal Thinking	box 27	folder 210	
Scope and Contents			
Animal Thinking, Cambridge, MA: Harvard University Press, 1984.			
Griffin, The Question of Animal Awareness (First and Second edition.)	box 27	folder 211	
Scope and Contents			
The Question of Animal Awareness: Evolutionary Continuity of Mental Experience, New York: Rockefeller University Press, 1976.			
Griffin and Novick, Animal Structure and Function; Scientific American-Animal Engineering	box 27	folder 212	
Scope and Contents			
Introduction and "More About Bat 'Radar'" in Readings from Scientific American: Animal Engineering, San Francisco: W. H. Freeman and Co., 1974. Animal Structure and Function, New York: Holt, Rinehart, and Winston Inc., 1970.			
Articles, Reprints, Reviews by Griffin, 1980s	box 27	folder 213	

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"Cognitive Aspects of Echolocation" in Animal Sonar, Processes and Performance, New York: Plenum, 1988. Review of Tactical Deception in Primates, Behavioral and Brain Sciences, 11:233-273, 1988. "Foreword to papers on Magnetic Sensitivity in Birds" in Animal Learning and Behavior, , 1987. Review of The Comparative Psychology of Intelligence, Behavioral and Brain Sciences, 10:645-695, 1987. Foreword in Dolphin Cognition and Behavior: A Comparative Approach, Hillsdale, NJ: L. Erlbaum Assoc., 1986. "Epilogue: The Cognitive Dimensions of Animal Communication" in Experimental Behavioral Ecology and Sociobiology, New York: Springer, 1985. "Recollections of an Experimental Naturalist" in Leaders in the Study of Animal Behavior, Lewisburg, PA: Bucknell University Press, 1985. Animal Consciousness, Neuroscience and Biobehavioral Reviews, 9: 615-622, 1985. Animal Thinking, excerpts, American Scientist, 72:456-464, 1984. Introduction to Animal Mind - Human Mind, Dahlem Workshop Report, Berlin: Springer-Verlag, 1982. Ecology of Migration: Is Magnetic Orientation a Reality?, Quarterly Review of Biology, Vol. 57, No. 3, 1982. High altitude echolocation of Insects by Bats, Behavioral Ecology and Sociobiology, 10:303-306, 1982. Echolocation by Cave Swiftlets, Behavioral Ecology and Sociobiology, 10:119-123, 1982. The Question of Animal Awareness: Evolutionary Continuity of Mental Experience, Los Altos, CA: William Kaufman, Inc., 1981. The Early History of Research on Echolocation in Animal Sonar Systems, New York: Plenum, 1980.

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box 27

folder 214

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box 28

folder 215

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box 28

folder 216

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box 28 folder 217

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box 28

folder 218

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box 29

folder 219

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box 29

folder 220

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box 29

folder 221

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^ Return to Table of Contents