CASSIE & CHLOE

THEY'RE CUTE, cuddly, and they're still puppy-size at six months. They're Cassie and Chloe, German shepherd puppies still short enough to run between the legs of a normal German shepherd their own age. Almost from the start, the breeder recognized several puppies from their litter were not growing properly. She donated four puppies from the large litter to the Small Animal Clinic at the New York State College of Veterinary Medicine in the hopes that clinicians would study the condition in depth. Two active but thin females, our Cassie and Chloe, were kept in the clinic. Despite excellent care by the breeder, they were lethargic, and small in size. Two other puppies were in extremely poor condition, had stopped eating, and were subsequently euthanized. Based on information from the physical examination, necropsy and laboratory tests, all four puppies were diagnosed as dwarfs.

The most frequent form of canine dwarfism occurs in German shepherds and the disease is believed to be genetically passed from one generation to the next, usually as a recessive trait. In the majority of cases, the pituitary gland has been partially replaced by a cyst, a condition that might affect levels of growth factors produced by the pituitary. In this type of dwarfism, there are usually insufficient levels of growth factors and growth factor regulating hormone(s) produced by the pituitary, and subsequent insufficient response of target tissues such as the thyroid and adrenal glands to growth promoting factors.

Besides short stature, German shepherds showing signs of pituitary dwarfism have hyperpigmentation and fragility of the skin, deficiency of primary guard hairs, retention of puppy haircoat, and partial or total alopecia (hair loss). Alopecia, if not present at the time of presentation, is likely to develop and to eventually affect the entire body except the head. In cases involving older dogs, owners are more often concerned about the skin condition than about the dog's size. According to reports, the growth rate of the affected animals has
LAMBERT NEW ASSISTANT DEAN FOR ADMINISTRATION

JOHN A. LAMBERT has been named Assistant Dean for Administration at the New York State College of Veterinary Medicine, Cornell University. He will be responsible for financial administration and will provide leadership to various administrative operations and support services, including personnel, computing, facilities, biomedical communications and biomedical electronics.

Lambert has over sixteen years of managerial experience at Cornell, Purdue and Brown Universities. He is a 1969 graduate of Michigan State University where he majored in business administration. After graduation, he entered Purdue’s Management Training Program and became business manager of Purdue University’s Research Computing Center. In 1971 he was appointed management analyst and by 1973 had earned a master of science in educational administration from Purdue. In 1974 he was promoted to assistant budget administrator, then left Purdue to become associate director of personnel and budget at Brown University. In 1977, he joined the administration of Cornell University as budget director.

John Lambert was voted one of the “Outstanding Young Men of America” by the U.S. Jaycees in 1981. He and his wife Judith have two children, Nathan and Alexis.

1986 HONOR DAY AWARDS

The Horace K White Prize
    Paul F. Bookbinder
Edward Joseph Gschrey, Jr.
Susan Patterson Montgomery
Jessica J. Spitzer

The Grant Sherman Hopkins Prize
    Paul F. Bookbinder

The New York State Veterinary Medical Society Prize
    David Carl Payer

The Prize of the Auxiliary of the American Veterinary Medical Society
    Dirk Kinsley Vanderwall

The James Gordon Bennett Prize
    Dennis C. Orr

The Anna Olafson Sussex Pathology Award
    Lawrence G. Carbone
    Donna M. Zyr

The Mary Louise Moore Prize
    Caroline Heather Griffitts

The Charles Gross Bondy Prize
    Paul F. Bookbinder
    J. Thomas Ross

The American Animal Hospital Association Student Award
    Margaret Colleen McEntee

The Phi Zeta Award
    Caroline Heath Griffitts

The Malcolm E. Miller Award
    William James Brown

The P. Philip Levine Prize in Avian Medicine
    Keith G. Mansfield
    Darrell L. Millis
    John S. Sapienza

The Frank Bloom Pathology Award
    Jospeh Michael Friedlander

The Jane Miller Prize
    Judith Nancy Friend
    Caroline Heather Griffitts

The Anne Besse Prize
    James Donald Robinson
    Kelvin Douglas Pierce

The Donald D. Delahanty Memorial Prize
    Pamela Anne Livesay-Wilkins

The Merch Manual Award
    Donna M. Ialeggio
    Pamela Anne Livesay-Wilkins

The Phi Zeta Award
    Caroline Heather Griffitts

The American Association of Feline Practitioners Award
    Nancy Helen Moy

The A. Gordon Danks Large Animal Surgery Award
    Jadene L. Bump
    Diane Ruth Shivy

The Hill’s Award for Excellence in Clinical Nutrition
    Lisa Wierzbicki Johnson

The Myron G. Fincher Prize
    Jadene L. Bump
    Carolyn Virginia McNamara

The Gary Bolton Memorial Cardiology Award
    Elizabeth Ann Dole

Veterinary Medicine Publishing Company’s Sheidy Prize for Pharmacology
    Jessica J. Spitzer

The Wild Bird Research & Rehabilitation Award
    Kristen L. Blumenstock
    Shelby W. Riddle
    Brad Taylor

The Norden Distinguished Teacher Award
    Dr. N. Sydney Moise

The Beecham Award for Research Excellence
    Dr. Karel A. Schat
    Dr. Douglas F. Antczak

The Colonel Floyd C. Sager Equine Obstetrics and Pediatrics Award
    Dirk Kinsley Vanderwall

The Purina Mills Inc. Award for Excellence in Swine Medicine
    James Donald Robinson

The Beecham Award for Research Excellence
    Dr. Karel A. Schat
FISH ANOMALIES STUDIED FOR POLLUTION CONNECTION

WHEN THE FISHERMAN'S catch looks too ugly to eat, that's the time to call Dr. Marilyn Wolfe, Senior Research Associate at the New York State College of Veterinary Medicine. The unattractiveness of the fish may be due to papillomas, benign tumors found in the fish's mouth or occasionally on the body. Thus far, Dr. Wolfe has identified papillomas in brown bullheads and other lesions in walleyes, large-mouth bass and lake trout.

The Department of Environmental Conservation (DEC) provides funds for Dr. Wolfe to determine the extent, nature and causes of anomalies observed in fish in New York. She is one of two fish pathologists associated with New York State's DEC and checks only wild fish caught in the state's waters. "Wild" fish are those fish not raised in hatchery systems.

While it's too soon to tell what causes the fishes' papillomas, there is concern that their development may be traced to exposure to contaminants in the water. In this instance, the affected fish may be a "first alert" for pollution problems that have the potential to affect human health.

Pollution is not the only suspect; a virus may be at the root of the problem. Dr. Wolfe notes that in one studied body of water, brown bullheads had a significantly higher incidence of papillomas than yellow bullheads. This suggests that a virus causes the growths since a virus can be species specific. In addition, analysis of the water and surface sediments in one area where affected fish were caught showed low or nonexistent levels of contaminants. Says Dr. Wolfe, "There is so much we don't know about the background incidence of lesions in wild fish populations. We just haven't worked with them long enough." To check the historic incidence of papillomas in fish, Dr. Wolfe recently visited the New York State Museum in Albany, NY, that houses a collection of fish species caught in the 1930's. Surprisingly, several of the preserved fish had papillomas.

Dr. Wolfe estimates it will be five years before sufficient data can be compiled to pinpoint patterns of lesions and relate them to contaminants or other causes. Presently, Dr. Wolfe and a technician at the New York State College of Veterinary Medicine are looking at fish from around the state, and accumulating a computer data base for lesions. They're also examining tissue samples with the electron microscope for evidence of virus infection. This September, Dr. Wolfe will participate in a Lake Ontario field study in cooperation with the DEC. They'll examine fish for tumors and other lesions and, if possible, try to determine the cause.

Whether you're a fisherman or not, you're probably helping to support this important work if you checked the "Return A Gift to Wildlife" box on your income tax return. Funds for Dr. Wolfe's fish pathology services and future research on fish diseases are provided through this project.

$50,000 FOR EQUINE RESEARCH

Funds raised by the Travers Committee during the 1985 Travers Celebration have been awarded as grants to five research projects at the New York State College of Veterinary Medicine. The $45,000 originally donated by the Committee was increased to $50,000 with a gift from Fasig-Tipton and the money will now be used to study the problems of thoroughbred racehorses. In late March, faculty were asked to submit grant requests on topics that would increase the understanding of equine health problems. Selection of projects was then made by a five-member committee.

The largest of the five awards for 1986, $11,435, will survey the incidence of enteric nervous system disease in naturally occurring cases of equine colic. The possible connection between diseases of the nervous system and equine colic has been suggested since previous studies have shown an association between disturbances in gut motion, which is controlled by nerves within the intestine, and some kinds of colic. Dr. John Cummings and Dr. William B. Forsythe, Ph.D. candidate, will conduct the project surveying horses admitted to the Teaching Hospital with signs of colic. Because there is some belief that thoroughbreds may be more susceptible to certain kinds of colic than other breeds, the data gathered from the survey will also be analyzed for breed predisposition. Such information would greatly influence treatment of colic.

Dr. Eric E. Ehrhardt, a physiology graduate student, and Dr. John E. Lowe, received $10,000 for an evaluation of phonoentrography, or the process of recording and analyzing gastrointestinal sounds, as a way of monitoring gut motility. Clinicians normally listen for gut sounds in their assessment of a colic case. Dr. Ehrhardt and Dr. Lowe will use audio and computer technology to record, measure, and analyze equine gut sounds in a variety of situations including at feeding, after administration of some common drugs and then at various time intervals. They will then compare clinicians' evaluations of gut sounds with microcomputer acoustical analyses. The information will be a practical value for diagnosis and therapy decision-making in colic cases and are also likely to provide a useful research tool for evaluating gastroenterological drugs.

A grant of $7,095 funds a project by Dr. Jay R. Georgi and Dr. Maire O'Connor, equine extension specialist, that will develop procedures for the differential diagnosis of equine strongylid infections. The strongylid nematodes, often considered the most damaging parasites of horses, produce eggs that are not readily differentiated, making it difficult to diagnose strongylid infections in a living animal. Using an electromagnetic digitizing tablet, a gift of the Alumni, and a microcomputer, Dr. Georgi hopes to develop a diagnostic technique that will make it possible to identify eggs of twenty or more common equine parasites including Strongylus vulgaris and other pathogenic species. The technique will have considerable value as a research tool in the study of transmission and control of equine parasites.

Dr. Richard H. Jacobson, in collaboration with Dr. Peter Timoney at the University of Kentucky, is developing an enzyme-linked immunosorbent assay or ELISA, that will detect the presence of antibodies to equine viral arteritis in equine serum. Travers funds amounting to $10,200 will support the project. The new ELISA will be a simplified and improved alternative to the tests currently available, with a high degree of precision, more efficiency, and greater flexibility. The project will include validation of the ELISA using sera from thoroughbred horses, and the establishment so the ELISAs can be run on instrumentation available in most serology laboratories.

Dr. Harold F. Hintz and Ph.D. candidate E. Lynn Dunn have received an $11,270 grant to study the energy needs of racehorses. National Research Council (NRC) estimates of energy requirements are based on Cornell studies with polo ponies and equitation school horses. They underestimate the needs of racehorses. Nervous activity may increase energy needs as may changes in the resting metabolic rate (RMR). Numerous studies have reported changes in the RMR in human athletes during training, but little has been done to learn if similar changes occur in equine athletes. Energy consumption during exercise and the post-exercise recovery period will also be studied as well as the value of fats as a source of energy for horses during training and performance. A standardized exercise test will be developed to assess performance. The results will be useful in planning rations that maximize the effect of nutrition on performance.

The 1986 grant of $5,000 funded research on energy needs of thoroughbred racehorses with recombinant DNA technology. The project was based on work done by Dr. Robin Ehrhardt, who has shown that some horses have a special need for carbohydrates to increase energy levels. The project will also examine the role of branched-chain amino acids in energy metabolism. The work will be important in determining the energy needs of racehorses.

Members of the committee charged with recommending Travers grants were committee chairman, Dr. Charles G. Rickard, professor emeritus and former acting dean of the College, Dr. George C. Poppensiek, professor and also a former dean of the College, Dr. Robert F. Playfer, director of the Teaching Hospital, Mrs. Penny Chenery, director and past president of the Travers Committee, and Mr. E. Barry Ryan, chairman of the College's Equine Advisory Council and a director of the Travers Committee.
NEW NAME, NEW PURPOSE FOR THE REED FARM

IF YOU RODE a mile or two east of the campus you'd be back on the farm, but the old homestead wouldn't look the same. The Reed Farm, once a privately owned dairy operation and long a site of animal physiology and nutrition research, is now the Multipurpose Research Unit of the Bovine Research Center under the joint development of the New York State Colleges of Veterinary Medicine and Agriculture and Life Sciences at Cornell University. What's in a name change? Well, there are a few changes inside - not many farms have their own research laboratory and surgery. Then too, the entire purpose of the facility has changed.

The Multipurpose Research Unit is a working laboratory for reproductive and physiologic research in ruminants. The NIH-supported projects carried out there represent fundamental research aimed at solving problems, such as the hormonal control of folliculogenesis, ovum maturation, ovulation, corpus luteum formation and function, and estrous cycle regulation. The biotechnology projects supported by these animal facilities are contributing to knowledge that will improve embryo yield from superovulation and enhance the use of embryo transfer by embryo splitting, cryopreservation and sexing and advance in vitro fertilization and gene insertion techniques. The facilities also support the research activities of participants in a recently funded (NIH) training grant in the areas of pregnancy, parturition and perinatology. Work conducted at these facilities has contributed significantly to the development of improved methods to control fertility in humans, as well as in animals, and to the development of contraceptive methods and population control in humans. A recently funded project will examine ways in which human and cattle embryos most likely to result in a pregnancy following embryo transfer may be selected.

The Reed Farm represents a substantial step forward in cattle research facilities at Cornell. As one of the three original facilities envisioned for the Bovine Research Center, it is the second to be established. (The first, the Specific Pathogen Free Unit, was dedicated in December of 1982.) If the Multipurpose Research Unit is to fulfill its potential as a unique, close-to-campus facility, ways must be found to expand its resources so that the numerous Cornell scientists involved in the Bovine Research Center may utilize its facilities.

Development of the unit is progressing, thanks to a recent $135,000 research facility grant by the NIH. Plans for a research wing and a small ruminant annex are dependent on future funding. In the annex, the preliminary research work in metabolic and physiologic stud-

ies may be done using goats and/or sheep as either physiologic models for the cow or to benefit a growing small ruminant industry. The planned research wing will look to the future of the dairy industry. It will contain three metabolic research rooms for projects calling for long-term physiological experiments with adult cows; a large research laboratory for tissue culturing and embryo manipulations; and expanded animal holding rooms and research support laboratories.

As the number of scientists conducting research at the Reed Farm-Multipurpose Unit grows, and as increasingly complex projects make demands on equipment and space, it is expected that the facilities will expand to keep pace with the needs. Certainly there is positive support from the dairy and beef cattle industries and their affiliates for the completion of the new facilities which will ultimately signal the beginning of a new phase in bovine research at Cornell.
CLOSE-UPS OF THE MINUTE

IT IS EASY to sympathize with Giralamo Aleandro's astonishment as he looked through an early microscope. After all, each of us may have been similarly amazed at the parametrical swimming into view under our compound light microscope during high school biology. But in case the wonder has faded, the electron microscope is ready to take the viewer into yet another world, into the most detailed aspects of the cell, virus, and macromolecule. And like Galileo's audience, we marvel at what we do not know had been created.

The New York State College of Veterinary Medicine has five electron microscopes—four transmission electron microscopes that look at internal structures and a scanning electron microscope that examines the surface structure of objects. The James A. Baker Institute, and the microbiology and anatomy departments each have a transmission microscope, while the pathology department has both a transmission and a scanning electron microscope. Pathology's transmission electron microscope is maintained on the third floor of the Research Tower under the direction of Ed Dougherty and is open to all other departments and researchers who wish to make use of it. Use varies widely and is divided almost evenly between teaching and research. Researchers may be looking at bovine embryos as Dr. Donald Schlafer is doing as he studies the causes of early embryonic losses. An ophthalmologist may view the ultrastructure of tissue, searching for a virus in Retinal samples. The electron microscope also aids in disease diagnosis as it reveals the minute abnormalities in cell structures or the presence of viruses or bacteria in necropsy materials. Indeed, electron microscopy is such a critical diagnostic aid and adjunct to gross and clinical pathology, pathology residents train for two weeks to learn how to prepare, process and photograph specimens. The facility currently provides EM accommodations for approximately twelve major research projects, twelve graduate student trainees, and various investigators with short-term projects.

Pathology's electron microscope is heavily used. Between November 1982 and April 1986, 13,510 tissue blocks—samples embedded in plastic blocks—were prepared for use in the microscope. Technicians in pathology's electron microscopy laboratory are also building an embryo library from the numerous slides they have prepared. Presently, there are 400 samples in the embryo library and at that pace it will eventually become the most extensive embryo reference source in the country.

Pathology's Phillips 301 transmission electron microscope fills a small room with its mass and, if you've seen enough old war movies, its column reminds you of a submarine's periscopes complete with the green glow of the viewing screen. As we prepare to view a sample, the specimen holder on the end of a pencil-thin injection arm is inserted into the electron microscope column; the specimen itself is too small to handle. Embedded in its block of plastic, the specimen was cut by an ultramicrotome's diamond knife and floated onto a special copper grid that is slightly larger than a capital letter of print on this page. We're looking at an embryo, and at 4250x magnification the copper grid looks like a train's tracks criss-crossing the screen. At 4500x the grid disappears and a cell fills the screen, but we're looking for something else. At 45,000x we finally see it, blue tongue virus particles on the surface of a bovine embryo. The virus is the size of a pea at 110,000x and dime size at 250,000x. Beyond that point, we lose definition and light, although a 570,000x resolution is possible.

Specimens at the desired resolution can be photographed and the negatives developed into 8 x 10" black & white prints. A darkroom is available for this work.

Like any photographic subject, the specimen must remain perfectly still during the exposure, and this can be a problem when using an electron microscope in the multi-story research tower. Although the specimen doesn't move, the tower does; there is vibration anywhere above the ground floor. Moderate magnification work is much less affected by the vibration and photographing in these cases is possible. For high resolution work, a test-model vibration isolation system was designed. It is this system that takes up most of the space in the electron microscope's room. Microtome tables for thin section preparation also have vibration dampening devices that float the microtomes on a cushion of air. When you remember that a thin-sectioned specimen is typically 60 - 100 nanometers "thick", there are 25,400,000 nanometers in approximately 1 inch), a steady cutting blade is important.

The College's scanning electron microscope is in Schurman Hall. When using this microscope, the specimen is not embedded. Instead it is critical-point dried without creating surface tension on the cell sample. Then it is coated with a metal, usually gold, whose surface electrons are excited by the primary beam of the electron microscope. Detailed, high resolution photos of the surface of a cell, for example, are possible.

The photos on the page were taken by Ed Dougherty, director of the Electron Microscopy Laboratory. The close-ups of the infinitesimally minute are fascinating, showing as they do, a world populated by the unfamiliar and remote; yet most of these organisms are very close at hand. If the strangeness is unsettling, remember that for every bit revealed there is something learned.
IT HAPPENS at the strangest times. You may pick up a textbook and remember the author. Or you catch yourself using the very words or favored technique your former professor used in similar circumstances. That teacher or professor may have passed from your life because of distance or graduation or time, but still you wonder, from time to time, where they are, what they’re doing. To keep those who may wonder up-to-date, Veterinary Viewpoints recently talked with some of our professor emeriti.

DR. H.H. DUKES, IOWA 1918, joined the Cornell faculty in 1932 when he was appointed professor and head of the department of physiology. He retired in 1960 and a year later returned to his alma mater, Iowa State, where he continued to give a series of highly entertaining and informative demonstration lectures to veterinary students and high school students. Dr. Dukes was honored last September 9th, on the occasion of his 90th birthday, by faculty, staff, students and friends at the Iowa State University College of Veterinary Medicine. According to Dr. Danks, “Dr. Dukes is as well as any 90-year-old can, and would like to visit Ithaca but luck would have it (and after a year in retirement) he met a man who offered him a job in Kansas as an associate professor. During his two years there he met someone who was equally lonely. She was a nurse and Dr. Danks claims he was thinking ahead to his old age when he married her. True or not, Dr. Danks and his wife, Bernice, celebrated their 50th wedding anniversary on August 3, 1985, with a reunion that included family and friends from across the U.S. Rumor has it there were so many guests, they took over a nearby hotel.

ARTHUR G. DANKS, COR '33 still calls Ithaca home. He says that “getting older is the main problem these days,” but you’d never know it by talking with him. He enjoys frequent visits from past students, keeps current with affairs at the college, and was recently one of the recipients of the Daniel E. Salmon Alumni Award. Dr. Danks remembers there were 36 students admitted to his class and only 3 had jobs when they graduated. He wasn’t one of them. As luck would have it (and after a year in retirement) he met a man who offered him a job in Kansas as an associate professor. During his two years there he met someone who was equally lonely. She was a nurse and Dr. Danks claims he was thinking ahead to his old age when he married her. True or not, Dr. Danks and his wife, Bernice, celebrated their 50th wedding anniversary on August 3, 1985, with a reunion that included family and friends from across the U.S. Rumor has it there were so many guests, they took over a nearby hotel.

STEPHEN J. ROBERTS, COR '36 Dr. Roberts and cohorts planned the “youngsters” at the 1986 Annual Conference for Veterinarians and beat them 17–16, proving once more that experience is everything. Dr. Roberts’ own experience as the coach of Cornell’s polo team from 1947 until 1966 has prepared him admirably for the book he is now writing on the history of polo at Cornell. (Under his guidance, the polo team won eight intercollegiate championships between 1953 and 1966.) In another brush with history, he gave the second David E. Bartlett Honorary Address last September to the combined College and Society of Theriogenology. Dr. Roberts spoke on “The History and Evolution of the Science and Art of Theriogenology” and was proud to say that he had met 75% of the people he discussed. Although Dr. Roberts retired in 1972 after 30 years at the College, he immediately joined his brother in his Woodstock, Vermont, practice where they are both very busy. He has taken some time, however, to finish the third revision of his book “Veterinary Obstetrics and Genital Diseases,” which is due out the first week of June.

Dr. Leonard was a recipient of the College’s Daniel E. Salmon Alumni Award for his work on two books chronicling the early history of the New York State College of Veterinary Medicine, “A Cornell Heritage, 1868–1908” and “In the James Law Tradition, 1908–1948.” In addition, he has compiled 17 volumes on the early faculty of the college, collecting their papers, memorabilia, and letters, and he has catalogued the D. W. Baker photography collection for the Flower Library. Nearly any weekday morning he can be found in his office in the Veterinary Research Tower where he’s now writing the centennial history of the New York State Veterinary Medical Society.

DORSEY W. BRUNER COR ’37, proved elusive and we weren’t able to speak with him before going to press. According to sources, he and his wife travel a great deal and Dr. Bruner enjoys his fishing and hunting trips and an occasional game of bridge. We’ll try to catch him between trips and find out what he’s been up to for the next issue.

E L LI S P. LE OA R D, C OR '34 celebrated his 82nd birthday in April and has no plans to moderate his work pace. Not too long ago he was honored by the New York State Veterinary Medical Society with the society’s highest honor, the Distinguished Life Membership Award, given for “exemplary service of the highest caliber above and beyond ordinary professional responsibilities.”

A NEW ADMISSIONS officer, Shenetta J. Selden has joined the staff of the Office of Student Affairs. She will be active in student recruitment, particularly for minority students, concentrating her recruiting efforts in New York State and the eight contract states. Her initial plans are to identify potential student pools among minorities who are well qualified for the program, but who may not be considering a career in veterinary medicine. Presently, the New York State College of Veterinary Medicine has an enrollment of twenty-two minorities in its four-year DVM program.

According to an April 27th article in the New York Times Magazine, “the number of black students and faculty at American colleges and universities has declined.” The author, Brent Staples, now an editor of the New York Times Book Review, cites statistics that show a dwindling undergraduate enrollment and one report that blacks now constitute only about 1 percent of all faculty at predominantly white colleges. He also gives full credit to a college recruiter’s persuasive efforts for his own decision to go on to college, even though he says, “on paper, I was a mediocre student from one of the lowest-ranking high schools in the state.”

Shenetta Selden hopes to be equally as persuasive in her approach. She feels that to counteract the decreasing numbers of minorities it is necessary to start counseling students at an early point in their scholastic careers, encouraging the younger groups to complete high school and go on to college. Recruitment for the DVM program will be geared toward those who are exceptionally well qualified and who have the ability and drive to successfully complete the Veterinary Medicine curriculum at Cornell. She feels that although a potential student may be exceptionally well qualified, occasionally there are specific individual weaknesses which are a result of inadequate secondary education. In such a case, a strong support system is important to offset such handicaps. Such support systems have been in place for some time in many high schools and colleges. This help may take the form of tutoring, counseling, and developmental courses. A strong system at the professional school level is also needed. Says Selden, ”It’s those kinds of programs that give the minorities an opportunity to become successful within any given program.”

Mrs. Selden received her undergraduate degree in business and a master’s in education from Oklahoma State University. Although this is her first time as an admissions officer in a professional school, Selden has several years of experience in admissions. She came to the Veterinary College from the State Programs Office which is part of the Office of Minority Affairs at Cornell. There she was involved with the admissions of economically and educationally disadvantaged students. As a military family living in six states in eleven years, the Seldens now hope to make Ithaca, New York, their permanent home. Her husband, Joseph Selden, is at the College of Human Ecology and they have a nine-year-old daughter. They are all ski enthusiasts and are looking forward to some time on the slopes this winter.
DR. CERIONE RECEIVES NATIONAL AWARD FROM PEW SCHOLARS PROGRAM

RICHARD A. CERIONE, Ph.D., of the Department of Pharmacology, has been selected a Scholar and awarded $200,000 under the prestigious PEW Scholars Program in the Biomedical Sciences, Pew Memorial Trust. Under the guidelines of the program, the funds may be used at the discretion of the Pew Scholar, for personnel, equipment, supplies, or travel directly related to the Scholar’s research in whatever way will best advance the research and the Scholar’s career.

Dr. Cerione’s biochemical research concentrates on two major areas—vision systems and cell proliferation. In his vision research, Dr. Cerione is interested in how different components in the eye interact to produce sight. One of these components is the light-receptor, rhodopsin, which upon light absorption activates other protein components in the signal transduction pathway. This receptor-coupled signal system is actually serving as a model for the second area of Dr. Cerione’s work—cell proliferation. In this process, growth factors (such as epidermal growth factor, EGF) bind to specific cell surface receptors and initiate cellular growth via a signal transduction system quite analogous to that operating in vertebrate vision. By applying what he learns about the interactions of the protein components of the vision system to growth factor receptor-mediated processes, he hopes to isolate the sequence of events leading to cell proliferation and the components directly responsible for tumorigenicity.

Invitations to apply for the Pew Scholars Program were submitted to 44 major institutions across the United States. The goal of the program is to facilitate the professional development of outstanding scientists, to enhance their value to their sponsoring institutions by providing flexible support over a period of four years, and to encourage their involvement in institutional and policy issues that have major implications for the biomedical sciences. Recipients can be from any discipline or professional background provided their research is relevant to human health.

DR. ANTCZAK HONORED

On a recent working visit to England, Dr. Douglas F. Antczak was presented with a crystal decanter by the Thoroughbred Breeders’ Association (TBA) at Cambridge, UK. This was in recognition of his collaborative research efforts between 1980 and 1985 on immunological aspects of equine pregnancy with Dr. W. R. Allen, Director of the Thoroughbred Breeders’ Association Equine Fertility Unit, Cambridge, UK. In the above photo taken during the Annual General Meeting of the TBA in London, on January 9, 1986, Col. N.E. Frieze, Chairman of the Association’s Board of Trustees, sits with Dr. W. R. “Twick” Allen on his right and to his left, Dr. Douglas F. Antczak with the commemorative decanter.

NEW GRANTS

Immunobiology of Rapid Expulsion. Principal Investigator: Dr. Robin G. Bell. $85,686 from the National Institute of Allergy and Infectious Diseases.

Studies on the Avian Leukosis Complex. Principal Investigator: Dr. Bruce W. Calnek. $226,768 from the National Cancer Institute.

The Role of Calcium in Secretion from Tumor Basophils. Principal Investigator: Clare M.S. Fewtrell. $78,862 from the National Institute of Allergy and Infectious Diseases.

Embryo Assessment by Measuring Luteotropic Capabilities. Principal Investigator: Dr. William Hansel. $68,497 from the National Institute of Child Health and Human Development.

Regulation of Calcium Channels in Heart Cells. Principal Investigator: Dr. William A. Horne. $71,052 from the National Heart, Lung and Blood Institute.

Minority High School Student Research Apprentice Program. Program Director: Dr. Donald Postle, Financial Aid. $6,000 award by the Division of Research Resources.

Hepatitis, Aflatoxin and Hepatocarcinogenesis. Principal Investigator: Dr. Bud C. Tennant. $85,298 from the National Cancer Institute.

Intestinal Absorption of Mineral Ions, Sperm. Principal Investigator: Dr. Robert Wasserman. $197,004 from the National Institute of Arthritis, Diabetes, Digestive & Kidney Diseases.

An AIDS Model. Principal Investigator: Dr. Fernando De Noronha. $82,620 from the National Cancer Institute.

UPJOHN DONATION

As the highlight of their annual dinner for seniors and faculty, the Upjohn Company presented SCAVMA president D. Brad Burrington ‘87 with a check for $750.00. The gift will support student social and educational activities at Cornell including attendance at professional conferences and meetings, and funding for SCAVMA sponsored seminars and activities. (L to R. Edward A. Graf, veterinary sales representative, D. Brad Burrington, Bruce A. Beachnau, DVM, Upjohn animal health research and development, and Pete Pillsbury, Upjohn district manager for the midwestern states.

"COMPARATIVE ASPECTS OF PHYSIOLOGY OF DIGESTION IN Ruminants" is the topic for a July 21-23 1986 Symposium at Cornell University, a satellite of the XXX International Congress of the International Union of Physiological Sciences held July 13-19 in Vancouver, Canada. The Cornell symposium will present many internationally known authorities speaking in sessions on comparative aspects, microbiology, pathophysiology, gastrointestinal physiology and metabolism. Poster sessions are also planned. To register, contact Dr. A. Dobson, Department of Physiology, New York State College of Veterinary Medicine, Cornell University, Ithaca, NY 14853.
Cassie and Chloe
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usually diminished a few weeks after birth. However, Cassie and Chloe are still growing, although slowly. Between 2/17/86 and 4/1/86 they grew nearly 15 cms. in height and gained weight. Chloe's weight went from 3 kg to 10 kg. Cassie is smaller at 8.5 kg., but she weighed only 2.3 kg. when admitted. Cassie and Chloe may be unusual in this respect, but so little is known about this condition and so few cases have been fully studied that it's hard to say what is "unusual."

Pathology reports have provided as many questions as answers. In the two puppies necropsied, pathologist Chris Miller found that most tissues were immature even for a puppy. The kidneys and thyroid were poorly developed although the thyroids did secrete their hormone, thyroxine. There was poor bone maturation characterized by too much cartilage and slow and abnormal growth, which is typical of dwarfs. Unlike other reported cases, neither of the puppies had pituitary cysts. However, when the pituitary gland was stained for growth hormone producing cells, there were fewer cells than normal. The obvious question must be, are the remaining cells normal. The cells present stained less intensively than normal cells. What does this mean? There are several possibilities. The pituitary may not be producing enough growth hormone or it had already secreted and exhausted its entire supply. The difference in staining intensity might also be the difference between what is immediately observed in a freshly stained tissue and what can still be seen in an older fixed tissue from one of the dwarf puppies. Laboratory tests of thyroid and adrenal glands show normal function, now, but perhaps Cassie and Chloe may develop thyroid and cortisol problems with time. Anticipating future developments is difficult because not all studies on canine dwarfs have investigated thyroid and cortisol problems. Additionally, Cassie and Chloe differ from pituitary dwarfs in that they had small but significant levels of growth hormone and increased concentrations of growth promoting factors. This information suggests a disorder in the tissues' response to growth factors, not a deficiency in the levels of the growth hormone.

Although the puppies are growing, they are still subnormal, stunted, but they appear alert and playful. They are healthy and happy and awaiting a trial treatment with growth hormone. But while the treatment has been proposed, growth hormone preparations are difficult to obtain and expensive. One positive note: the expense may not always be an obstacle. In the near future human growth hormone manufactured by recombinant DNA techniques may become available on a large-scale basis.