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Scott Lyell Gardner
University of Nebraska - Lincoln, slg@unl.edu

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American Society of Parasitologists

Newsletter

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From the *Editor* of the Newsletter

The ASP newsletter accepts information and news of a parasitological nature from all disciplines. Consider publishing your parasite poems, posting a link to your favorite "parasite lecture" providing an actual parasite lecture, or otherwise send "something" in to the editor. Your contribution is valuable and will be considered for publication.

Sincerely,

Scott L. Gardner

Curator, Harold W. Manter Laboratory of Parasitology
University of Nebraska-Lincoln

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MEETING DATA

REMINDER - TAKE ACTION SOON FOR THE 2008 ASP MEETING. The 2008 CALL FOR PAPERS for the 83rd Annual Meeting of the American Society of Parasitologists is on the ASP web site. Please go to http://asp.unl.edu and click on the meetings tab to download the pdf file of the call. Dates of the meeting are June 27 - 30, 2008 at the Hilton Arlington, Arlington, TX.

ANNOUNCING THE SITE AND DATE FOR THE 2009 ASP MEETING [Knoxville, TN]. Directly from Don Duszynski. The 2009 ASP Annual meeting will occur at the Crowne Plaza Hotel in Knoxville, TN, from 13-17 August, 2009. You can check their web site, www.crowneplaza.com, for more information on the Knoxville edition of the hotel. Sharon Patton and Charles Faulkner will be the co-chairs of the Local Committee. Watch for more information both on the ASP web site and in the Journal.

Other Meetings. **The Organization for the Study of Sex Differences** (http://www.ossdweb.org) is convening its second annual scientific meeting from **June 4-6, 2008** in New Orleans, LA. The program will consist of opening and closing keynote speakers, seven symposia, and two poster sessions. Symposia topics include sex differences in vascular and renal disease, sleep, drug abuse, cardiovascular disease, stress, immunity and infection, and x-linked disorders. The deadline for poster abstract submissions is March 15, 2008. Visit http://www.ossdweb.org/meeting_2008.html to register or contact Viviana Simon, PhD (viviana@ossdweb.org) for more information.

CESTODE WORKSHOP -- the 6th IWCSP. The Sixth International Workshop on Cestode Systematics and Phylogeny. Smolenice (Slovakia) 15th – 20th June 2008. Go to: IWCSP Secretariat, Hlinkova 3, 040 01 Košice, Slovakia,
Phone: +421 55 6334455, Fax: +421 55 63 314 14, Email: cestodeworkshop2008@saske.sk, http://www.saske.sk/pau/workshop2008.html

EMOP 10 [August 24 - 29, 2008] THE 10TH EUROPEAN MULTICOLLOQUIUM OF PARASITOLOGY The Société Française de Parasitologie and the European Federation of Parasitology welcome you in Paris for the 10th European Multicolloquium of Parasitology (EMOP 10). During the same week the XXth International Congress of Zoology will be held in Paris. Combined registration fees will be proposed in order to attend both conferences.

THE XIITH INTERNATIONAL CONGRESS OF PARASITOLOGY (ICOPA) (2010). To be held in Melbourne, Australia, from **15-20th August 2010** at the new Exhibition and Convention Centre. All are invited to join the parasitology community at this exceptional facility that lies in the heart of Melbourne in close proximity to the scenic Yarra River and the associated parks, multicultural restaurants, cafes and bars.

FIELD PHOTOGRAPHY - NEW FEATURE OF THE ASP NEWSLETTER

This is a working cattle horse with typical regional "chaco saddle" from the chaco thorn forest of Bolivia. Many saddles had built-in leather chaps to protect the rider from the thorns and spines. ...one knows they have entered the Bolivian Chaco if, in the first 20 meters, your clothes are torn and blood is issuing from many cuts, scratches, and punctures and said individual is covered with larval ticks. Photo of horse by slg made with a Pentax-MX, 50 mm lens, f. 5.6, 1/250 sec., Kodachrome 64. July, 1985, near the border of Paraguay in the dept. of Tarija, Bolivia. *Copyright, Scott L. Gardner*. -If you have a photograph you would like to publish in the newsletter, send a letter and a copy of the photograph to slg!@unl.edu.

This photograph was made by slg during field work in Bolivia 1985. What you don't see in this photo are all the ticks on this horse, stuck in various places - I remember more than can be seen here at all, maybe it was another less well cared for horse that had them. In this region, there were more larval ticks in this area than I have ever encountered anywhere. They were found in the thorn scrub in truly amazing numbers, and every little bite became inflamed and then broke open and exuded a nice yellowish serum, mixed with blood if it was scratched.

PARASITIC DISEASE OF THE QUARTER [Dracunculiasis]

Nemata: *Dracunculus medinensis*. The Morbidity and Mortality Weekly Report published by the CDC included an article in their issue published on August 17, 2007 entitled *"Progress Toward Global Eradication of Dracunculiasis*" January 2005–May 2007 (Vol. 56, No. 32: 813-817) [See: http://www.cdc.gov/mmwr/PDF/wk/mm5632.pdf] on a nematode that has been causing both morbidity and mortality in people for a very long time. This is one of the few parasites that has the potential to be eliminated from the human population primarily because of the unique mode of transmission of this nematode.

From Page 813 of above cited report:

> The World Health Assembly first adopted a resolution calling for the eradication of dracunculiasis (Guinea worm disease) in 1986, when an estimated 3.5 million cases were reported in 20 countries, and 120 million persons were at risk for the disease (1,2). This report describes the continued progress of the dracunculiasis eradication program worldwide during July 2005–May 2007 (3,4). As of May 2007, dracunculiasis was still endemic in nine* of the 20 countries cited in 1986; in 2006, approximately 98% of dracunculiasis cases worldwide were reported from Ghana and Sudan, and five other countries reported fewer than 30 cases each (Table 1). The number of dracunculiasis cases increased from 10,674 in 2005 to 25,217 cases in 2006, with nearly all of the increase reported in Sudan, before decreasing from 9,510 during January–May 2006 to 4,460 cases during January–May 2007. Continued intensification of interventions against transmission of dracunculiasis will be necessary to eradicate dracunculiasis in the nine countries where the disease remains endemic.
>
> The number of villages worldwide with endemic dracunculiasis decreased from 23,165 in 1993 to 3,583 in 2006 (Table 2). All of the remaining areas where dracunculiasis is endemic are in Africa. Outside of Sudan and Ghana, where the number of dracunculiasis cases increased 159%, from a total of 9,546 in 2005 to 24,714 in 2006, the number of cases reported from the other seven countries where dracunculiasis remains endemic decreased 56%, from 1,083 in 2005 to 481 in 2006. Worldwide, the number of dracunculiasis cases exported from one country to another declined from 114 in 2004, to 45 in 2005, to 22 in 2006. However, a 180% increase was

reported from Nigeria during January–May 2007, when the number of cases increased to 42 from 15 during the same period in 2006. Dracunculiasis remains endemic in Burkina Faso, Côte d'Ivoire, Ethiopia, Ghana, Mali, Niger, Nigeria, Sudan, and Togo. Four of these countries (Burkina Faso, Côte d'Ivoire, Ethiopia, and Togo) reported no indigenous cases during January–May 2007; however, countries must report no indigenous cases for 3 years and meet other requirements to be certified as free from transmission by the International Commission for the Certification of Dracunculiasis Eradication.

Editorial Note (MMR editor): Dracunculiasis is a parasitic infection caused by Dracunculus medinensis. Persons become infected by drinking water from stagnant sources (e.g., ponds, open wells, or pools) contaminated by copepods (water fleas) that contain immature forms of the parasite. After 1 year of development within the host's body, adult worms approximately 1 meter (39.4 inches) long emerge through skin lesions, usually on the lower limbs, which frequently develop severe secondary bacterial infections. No effective antiparasitic drug or vaccine for dracunculiasis exists, and infected persons do not become immune to future infections by the parasite. The emergent Guinea worm is removed manually by rolling it on a stick or roll of gauze a few centimeters each day. Disabilities caused by dracunculiasis during the emergence of the worm are related to the invasion of pyogenic organisms that invade the skin lesion and aggravate the pain, swelling, and cellulitis along the worm tract, including abscess formation (6). The average period of incapacitation is 8.5 weeks. Inflammation of the joints can lead to arthritis, synovitis, and muscle and tendon contraction with resultant ankylosis of the limbs (7). The duration of disabilityoften can be reduced through proper care of the patient'swounds. Keeping patients under supervised care while their Guinea worms are extracted manually can prevent further contamination of drinking water. Global eradication of dracunculiasis will mark the first worldwide elimination of a parasitic disease and the first time a disease has been eradicated without benefit of a vaccine. The first target year for eradicating dracunculiasis was1995, set by African ministers of health in 1988 and confirmed by the World Health Assembly in 1991. That target was not met because of slower than expected mobilization of the 20 countries with endemic disease (8). In 2007, however, all nine remaining countries with endemic dracunculiasis are mobilized, and the global program has received support from the Bill & Melinda Gates Foundation and other donors in recent years. In 2004,ministers of health and the World Health Assembly established a new eradication target date of 2009 (9).The current global eradication strategy, when effectively applied, has demonstrated the ability to stop transmission of dracunculiasis, reducing the number of cases worldwide from an estimated 3.5 million in 1986 (1) to

4,460 in the first 5 months of 2007 (Table 1). The parasite cannot survive more than 2–3 weeks outside a human body (10). When all transmission is interrupted, D. medinensis will be eliminated, and no further control measures will be needed. In 2007, the most important factors to ensure global eradication are strong political will, a sense of urgency among political leaders to stop transmission in the remaining countries with endemic dracunculiasis, and continued support from eradication partners.

References from the MMR article.

1. Watts SJ. Dracunculiasis in Africa: its geographical extent, incidence, and at-risk population. Am J Trop Med Hyg 1987;37:119–25.
2. World Health Assembly. Elimination of dracunculiasis: resolution of the 39th World Health Assembly. Geneva, Switzerland: World Health Organization; 1986 (resolution no. WHA 39.21).
3. World Health Organization. Dracunculiasis eradication: global surveillance summary, 2006. Wkly Epidemiol Rec 2007;82:133–40.
4. CDC. Progress toward global eradication of dracunculiasis, January 2004–July 2005. MMWR 2005;54:1075–7.
5. Hopkins DR, Ruiz-Tiben E. Strategies for dracunculiasis eradication. Bull World Health Organ 1991;69:533–40.
6. Ruiz-Tiben E, Hopkins DR. In: Guerrant RL, Walker DH, Weller PF, eds. Tropical infectious diseases: principles, pathogens, and practice. 2nd ed. New York, NY: Elsevier; 2006:1204–7.
7. Imtiaz R, Hopkins DR, Ruiz-Tiben E. Permanent disability from dracunculiasis. Lancet 1990;336:630.
8. Ruiz-Tiben E, Hopkins DR. Dracunculiasis (Guinea worm disease) eradication. Adv Parasitol 2006;61:275–309.
9. World Health Assembly. Eradication of dracunculiasis: resolution of the 57th World Health Assembly. Geneva, Switzerland: World Health Organization; 2004 (resolution no. WHA 57.9).
10. Muller R. Dracunculus and dracunculiasis. Adv Parasitol 1971; 9:73–151.

Terry Lamon Yates in Baja California Sur, 1995. Photo by SLG

Terry L. Yates -Researcher helped New Mexicans understand zoonotic hantavirus

UNM Vice President for Research and Economic Development Terry L. Yates has died after a brief illness. "It was his exuberance you remember most about Terry," said UNM President David Schmidly. "He was one of the first graduate students I taught at Texas Tech in the mid-1970's, and he was always ready to examine a new idea or take a trip to the field to explore a theory. I think he was happier out in the field than he was behind a desk." Terry was 57 years old.

Terry was best known for his groundbreaking research on the source of Hantavirus, a serious respiratory disease that is frequently fatal. When people in the southwest began dying from an unknown viral disease in 1993, Yates worked with researchers from the National Centers for Disease Control to track down the cause.

Using specimens Yates and others had collected over the years and placed in the museum of Southwestern Biology, they were able to pinpoint a species of deer mice as the carrier of the Sin Nombre Virus. The National Science Foundation named research done by Yates and his collaborator Robert Parmenter on the Hanta Virus as one of its "Nifty 50" discoveries – projects funded that have had the biggest impact on the lives of Americans.

His most recently published paper explored the relationship between weather and deer mice populations. Yates and his co-authors were able to predict increased risk to humans in specific parts of the Four Corners area after studying satellite photos of vegetation growth. In 2006 his work gave the New Mexico Department of Public Health the scientific evidence it needed to give advance warning to New Mexicans living in certain areas of the state that they faced an increased risk for exposure to hantavirus.

Yates was appointed Vice Provost for Research at UNM in 2001, and served as Vice President for Research and Economic Development from 2004 to the present. He was also the Curator of Genomic Resources for the Museum of Southwestern Biology at UNM, and a professor of biology and pathology, and he helped create the Long Term Ecological Research site near Socorro, used by UNM students involved in a wide variety of research projects. In addition to the work that Terry was known for most widely, he published as co-author, many articles on parasites of mammals; especially in collaboration with Donald W. Duszynski and students. Terry was instrumental in development of a continuing strong program in survey and inventories at the National Science Foundation, and he brought in new monies to the program when it was in the early stages. While he was director of the division of environmental biology at the NSF he help lay the groundwork for the now very successful Tree of Life program.

Yates started at UNM in 1978 as an assistant professor of biology. During his tenure as vice-provost and vice-president for research, the total amount of research awards rose from $247 million to nearly $300 million.

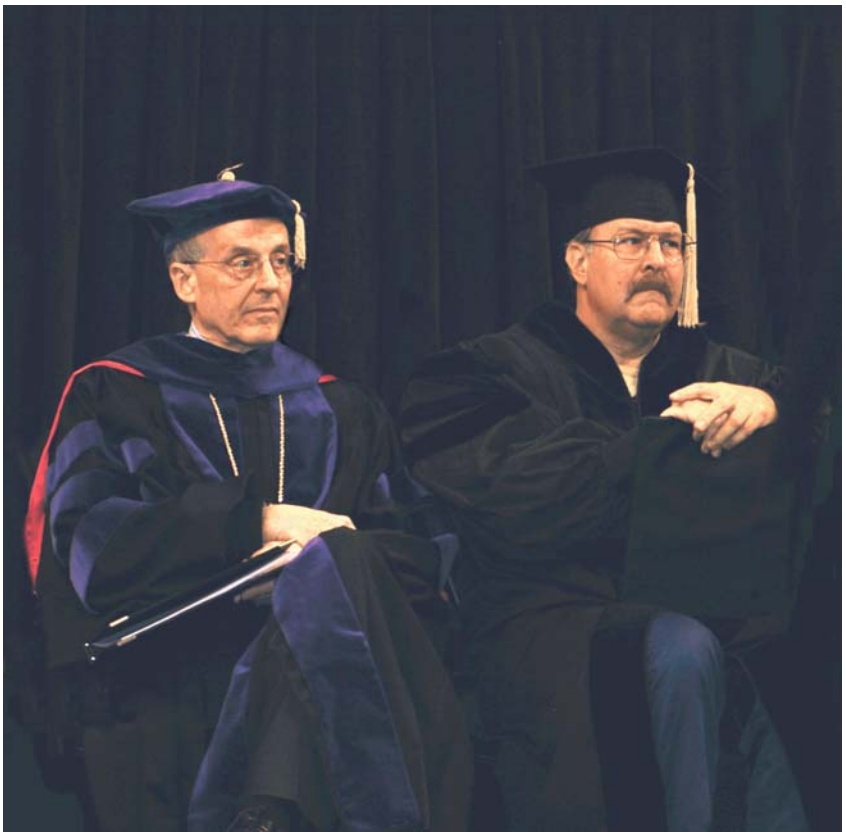
He was a member of the Board of Life Sciences of the National Academy of Sciences, and an honorary member of the Society of Mammalogists, the highest honor that professional society bestows. He published 126 research papers in refereed outlets, and chaired 17 Ph.D. students. In August the UNM regents gave Yates a Regents Meritorious Service Award.

A memorial service to celebrate the life and work of Terry was held on Friday, Dec. 14 at 2 p.m. in Popejoy Hall in the Center for the Arts on the UNM campus. In lieu of other donations, the family has requested that contributions be made to the Terry Yates Endowment for Field Mammalogy at the University of New Mexico. Please send contributions to the Yates Endowment in care of the UNM Foundation, Inc., MSC07 4260, 1 University of New Mexico, Albuquerque, New Mexico 87131-0001.

(Modified by slg from the UNM web site: http://www.unm.edu/)

Eminent biologist Daniel R. Brooks addressed graduates at the University of Nebraska - Lincoln

Lincoln, Neb., Dec. 11, 2007 -- Biologist Daniel R. Brooks of the University of Toronto gave the address at the University of Nebraska-Lincoln's Dec. 22 commencement exercises.



Chancellor of UNL, Harvey Perlman (left) and Daniel Rusk Brooks (Right) at UNL Commencement, December 22, 2007

UNL Chancellor Harvey Perlman presided at the exercises, which began at 9:30 a.m. at the Bob Devaney Sports Center in State Fair Park. Approximately 1,410 students received degrees.

Brooks, who received an honorary doctor of science degree, is an internationally recognized evolutionary biologist, parasitologist, and tropical biodiversity specialist. The title of his talk was "*Solving the Emerging Infectious Disease Crisis: Finding them Before they Find Us."* (The talk is be available on the ASP web site [http://asp.unl.edu/brooks.pdf]).

After earning his bachelor's degree with distinction (1973) and his master's degree (1975) from UNL, he earned his doctorate (1978) at the University of Mississippi. Since 1988, he's held a faculty post at the University of Toronto, where he is a professor in the Department of Ecology and Evolutionary Biology.

His more than 300 scientific publications include groundbreaking books on general theories about the nature of complex systems, ranging from the origin of life to the evolution of languages and other semiotic systems,

methods of phylogenetic analysis, principles and methods of comparative biology, and parasite evolution.

Brooks is the youngest recipient of the Henry Baldwin Ward Medal for research in parasitology, is a Fellow of the Royal Society of Canada, and was honored by the Instituto Oswaldo Cruz of Rio de Janeiro, Brazil, for the study of tropical disease. His international leadership in integrating biodiversity inventories with evolutionary and ecological principles has led to revolutionary insights about the emergence of new infectious diseases.

Paris Hosts Collections Symposium

From: http://www.diversitas-international.org/uploads/File/BuffonDeclarationFinal.pdf

Also see:
http://www.mnhn.fr/museum/foffice/national/national/presentation/buffon/sombuffon.xsp?cl=en

The Buffon Declaration Natural History Institutions and the Environmental Crisis

Concluding Message from the Buffon Symposium - October 18th and 19th, 2007 Muséum National d'Histoire Naturelle, Paris Representatives of 93 natural history institutions (natural history museums and research institutes, botanic gardens, zoos…) from 36 countries from all continents met in Paris on 18th and 19th October, 2007, on the occasion of the tercentenary of the birth of Buffon, one of the great founding fathers of the scientific study of the diversity of life.

Given that science is critical for sustainable management of biodiversity and ecosystems and, through it, survival of human populations on this planet, the vital contributions of these institutions are fourfold.

a) They are the primary repositories of the scientific samples on which understanding of the variety of life is ultimately based.

b) Through leading-edge research they extend knowledge of the structure and dynamics of biodiversity in the present and in the past.

c) Through partnerships, and through programs of training and capacity-building, they strengthen the global capability to address current and future environmental challenges.

d) They are a forum for direct engagement with civil society, which is indispensable for helping bring about the changes of behaviour on which our common future and the future of nature depend. Today natural history institutions have particular responsibilities because global biodiversity is collapsing. Current approaches are inadequate in the face of this challenge. We therefore reaffirm our commitment to work together, and to develop new integrated approaches to understand and address the environmental crisis, and to communicate the issues to the public, policy makers and a broad range of stakeholders.

We make three recommendations:

1 - Collections of specimens and other databases on nature are a model of nature's variability and are a part of the world's scientific infrastructure (as exemplified by the OECD Global Science Forum). They are crucial tools for understanding the impact of climate change, of biodiversity loss, and other environmental challenges, but natural history collections are nowadays disappearing in many countries due to lack of funding. We therefore call on governments and organisations to give the conservation of these vital collections increased levels of support.

2 - Naturalist research in the field is essential for the continued gathering and dissemination of information, as well as training and capacity-building initiatives. As a group, natural history institutions have developed, and will continue to develop and implement, best practice in this area. However, current policy changes derived from the U.N. Convention on Biological Diversity have made research, and the management of collections for scientific research on biodiversity, increasingly difficult and expensive.

We therefore call on governments and the Convention on Biological Diversity:
- to recognize the difference between profit-oriented bioprospecting and science-oriented research for the public good, and
- to facilitate non-commercial biodiversity collecting and the movement of specimens in their approaches to Access and Benefit-Sharing (ABS), including through their development of policy and regulations.

3 – Evolution is without doubt the most acceptable explanation for the diversity of life. It is crucial that only such empirical and testable approaches are accepted as "scientific" when discussing evolution. We strongly urge that support be given for the dissemination of scientific perspectives, which is our duty as outreach organisations, and for the teaching of evolution in schools.

In conclusion, the participants in the Buffon Symposium express the desire that scientists, policy makers and civil society unite in their efforts to achieve sustainable management of nature and the maintenance and restoration of ecosystems and their services upon which civilization depends. We reaffirm our conviction that a flourishing development model that is compatible with a sustainable natural world is possible. We are enthusiastic regarding the contributions we can make through our missions in this context, which consist of extending human knowledge of nature, training specialists of all kinds, and sharing knowledge with the public, particularly young people. We strongly affirm our capacity to provide an unbiased forum for the development of new ideas and new approaches among all the stakeholders concerned.

To see what the parasitologists are doing in this regard, see the systematics pages of this web site.
-editor-

Web Bits.

http://www.biodiversityhotspots.org/Pages/default.aspx Conservation International Hotspots

http://www.sho.com/site/ptbs/prevepisodes.do?episodeid=s5/detoxPenn and Teller.

Season 5, Episode 4: De-Toxing Penn & Teller expose the truth behind our supposedly toxic insides. We find out about "colonics" and those "cleansing" diets including today's diet darling, the "Neera Super Cleanse." An actual Parasitologist - a scientist who studies parasites - tells us the truth about the parasites among and within us. A visit to the world's largest inflatable walk-through colon rounds out the episode.

http://www.nature.org/?src=t1 The Nature Conservancy.

Go to http://www.planetbob.asu.edu/ to see the relatively new planet bob video. I think that this can be used for college and high school courses in biology. -editor

Editor
Scott Lyell Gardner, Ph.D.
Curator of Parasitology
The Harold W. Manter Lab. of Parasitology
W-529 Nebraska Hall
The University of Nebraska State Museum
University of Nebraska-Lincoln
Lincoln, Nebraska 68588-0514
Tel: 402-472-3334 Fax: 402-472-8949
E-mail: slg@unl.edu

Associate Editors

Agustin Jimenez-Ruiz, Ph.D.
The Harold W. Manter Lab. of Parasitology
W-529 Nebraska Hall
The University of Nebraska State Museum
University of Nebraska-Lincoln
Lincoln, Nebraska 68588-0514
Tel: 402-472-0964 Fax: 402-472-8949
E-mail: fruiz@unlserve.unl.edu

George A. Conder, Ph.D.
Industrial Liaison for ASP
Animal Health Product Development
Central Research Division – Pfizer, Inc.
Eastern Point Road
Groton, CT 06340
Tel: 203-441-4576 Fax: 203-441-4786

AFFILIATES

Annual Midwestern Conference of Parasitologists
Helminthological Society of Washington
New England Association of Parasitologists
Northern California society of Parasitologists
Parasitology Section, Canadian Society of Zoologists
Rocky Mountain Conference of Parasitologists
Southeastern Society of Parasitologists
Southern California Society of Parasitologists
Southwestern Association of Parasitologists

Note to Members

The ASP Newsletter welcomes news stories photos and articles. Please send your text electronically to Scott Gardner as an e-mail and attach as a wordperfect or MS Word document.
Drawings, photographs, charts, or tables can be sent as B/W TIF files at 300 dpi. Please send TIF files one at a time. A general rule is to limit photograph size to 3x5". You may attach both text and graphic files to your email message. Scott Lyell Gardner
Editor, ASP Newsletter
slg@unl.edu