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Summer 2014

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ASP Newsletter

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Spring-summer, 2014

The American Society of Parasitologists



Newsletter

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From the Editor

Consider publishing your poems, creative writing, essays, or photographs in the ASP Newsletter. As you have seen in the past, we have included interesting and, sometimes, controversial "non peer-reviewed" white papers in the ASP Newsletter. Send me a link to your favorite lecture on parasites or consider providing an actual parasite lecture. Your contribution is valuable and anything sent in to me will be considered for publication. There are only a very few items that I have rejected over the years. You might even be able to put the contribution into your resume or as we call it these days, your curriculum vitae.

Sincerely,

Scott Lyell Gardner, Ph.D.



Figure 1. Tapeworm egg (*Hymenolepis*). Can the reader see what is unusual about this specimen?

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Report to the ASP from John Janovy Jr.

ASP Newsletter third column, John Janovy, Jr., ASP President, 2013-14
Newsletter Column – John Janovy, Jr.

A couple of years ago when I agreed to have my name placed on the ballot for Vice-President, I was then asked to supply a platform—what I would try to accomplish during my term as President. As is the case with many documents from that time, I can't find the original wording, but I do remember that it dealt with education, probably because I was finishing up 35 years of teaching Field Parasitology at the Cedar Point Biological Station (CPBS) in western Nebraska and looking back on those years as a truly wondrous adventure. When non-biologists asked about CPBS, as they often did at social occasions, I told them to draw an analogy: imagine you were a journalism major and got to spend the summer being a real reporter, not a coffee-bringer, at the *New York Times*; or, pretend you were a political science major and got to be an elected member of Congress for a couple of months, a real, functioning, member, with voting privileges, not a page. The non-biologists seemed to understand the analogy, and I believe there is a real element of truth in it because those summer students, regardless of their background, did real work in the field, trying to answer legitimate questions about parasitism on a daily basis, and in the process gained experience dealing with mostly microscopic, uncooperative, wild, and dumb, but nevertheless beautiful, organisms. I was completely convinced then, and am still convinced, that parasitology as a discipline has one unique property compared to other areas of biology, or science in general, for that matter, and that property involves acquisition of transferable skills.

Now, I know for a fact that transferable skills—reading, writing, handling of statistics and other kinds of quantitative information, verbal communication, and ability to interact productively with many kinds of people, regardless of the area—can be acquired by means other than a summer project on monogene host specificity among centrarchid fishes, gregarine population dynamics, or the behavior of snails infected with trematode larvae compared that of uninfected snails. But there was something truly amazing about how this combination of setting, easy access to a legitimate problem, time to explore that problem, and the company of friends who were also studying parasitism, but perhaps in different systems, led to a sort of intellectual maturity, comfort with uncertainty, and growing confidence in one's own ability to actually address a research problem. All of these projects were embedded in a much larger, and very rich, context consisting of parasitological history and the people who produced it, literature, taxonomic challenges, ecological settings, developmental events



needed for life cycle completion, multiple hosts and the circumstances that brought them together.

During those years, it always seemed that access to all this challenging complexity was a key factor in the acquisition of those transferable skills. In retrospect, that access is a reflection of the common-ness of parasitism and the parasitological principles that we all know are manifested so broadly throughout the animal and protistan kingdoms, for example: host specificity, aggregated populations, and sequential larval or juvenile stages in discrete environmental niches. You probably would not be reading this newsletter if at some time in your life you'd not been intrigued by your first encounter of a symbiotic organism, most likely a eukaryote, living in or on an individual of some larger species. So not only do we parasitologists have access to this remarkable diversity of research problems, we have a powerful teaching device, namely, that "shock of the new" in the form of a trematode, tapeworm, nematode, or louse appearing, unexpectedly (to a beginning student!) in the gut or down between the hairs or feathers of some familiar host species. It's our experience with these organisms, however, that lets us draw a student into further exploration of host-parasite relationships.

We've all been through this trajectory of surprise, fascination, and eventual engagement with the phenomenon of parasitism. Some of us wonder, especially during those Friday afternoon sessions at a local off-campus establishment, why, for example, introductory biology texts, including those intended for majors, give such short shrift to parasitism, usually citing only the *Plasmodium* life cycle and perhaps providing a taeniid and schistosome life cycle diagram. Campbell et al.'s eighth edition of BIOLOGY, for example, mentions parasitism on only 17 of its 1267 pages, and among the Concept Check paragraphs for Chapter 28 (Protists), we see part of one sentence devoted to parasitism ("Protists form mutualistic and parasitic associations with other organisms.") Clearly the opportunity exists for some parasitologist, assigned to teach an introductory course, perhaps even a non-majors one potentially filled with future elected officials and business leaders, to subvert the system and slip in enough parasitological context to capture some young minds!

Because this column is focused on education, I asked the student who works in my office part time to simply do a Google search using "parasitology" as the key word and see what kinds of resources might turn up. The only criterion for choosing web sites is that they contain free content that might be of use to both students and teachers, including figures. A partial list of the ones that turned up in the first twenty pages of Google hits is given below. If yours is not on the list that probably means it didn't show up in those first twenty pages, or that it was "only" your lab's web site (I say "only" because there are a LOT of those sites and many of them are really great – thanks!). So there is plenty of stuff, free stuff, to use for teaching.



Finally, thanks to Talia Everding, the student who compiled this list (and probably learned quite a bit about parasitism in doing so!).

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<http://microbiology-parasitology.med.nyu.edu/research/parasitology> (contains links to each person's publications)
<http://www.diplectanum.talktalk.net/purls/>
<http://www.vetmed.wisc.edu/pbs/vetpara/gallery.html> (some photos)
<http://parasitology.msi.ucsb.edu/pubs.html> (links to publications)
<http://www.youtube.com/playlist?list=PLz27Rlp3y6Xvg3KQNmP4w2GDX5nBd4eHe>
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<http://www.vspn.org/library/wwwdirectory/Parasitology.htm>
<http://atlas.or.kr/about/index.html>
<http://clinicalmicrobiology.stanford.edu/parasitology.html>
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<http://www.parasite-diagnosis.ch/>
<http://parasites-world.com/>
<http://parasitology.com/>
http://www.kdheks.gov/diagmicro/parasitology_section.htm

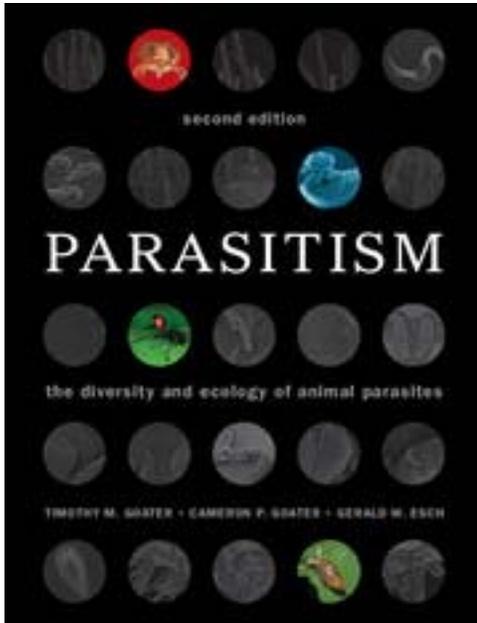


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http://www.gfmer.ch/Medical_journals/Parasitology.htm
<http://www.weinersmith.com/?p=456>
<http://www.microbiologybytes.com/introduction/Paraquiz/paraquiz.htm>
http://www.phsource.us/PH/PARA/Para_Glossary.htm
<http://www.thatveterinaryguy.co.uk/educational-resources/parasitology/>



New Parasitology Book.

Parasitism- The Diversity and Ecology of Animal Parasites *2nd Edition*



AUTHORS:

Timothy M. Goater, Vancouver Island University, British Columbia
Cameron P. Goater, University of Lethbridge, Alberta
Gerald W. Esch, Wake Forest University, North Carolina

DATE PUBLISHED: December 2013

FORMAT: Paperback ISBN: 9780521122054

Reflecting the enormous advances made in the field over the past ten years, this text synthesizes the latest developments in the ecology and evolution of animal parasites against a backdrop of parallel advances in parasite systematics, biodiversity and life cycles. This second edition has been thoroughly revised to meet the needs of a new generation of parasitology students.

Balancing traditional approaches in parasitology with modern studies in parasite ecology and evolution, the authors present basic ecological principles as a unifying framework to help students understand the complex phenomenon of parasitism. Richly illustrated with over 250 figures, the text is accompanied by case study boxes designed to help students appreciate the complexity and diversity of parasites and the scientists who study them. This unique approach, presented clearly and with a minimum of jargon and mathematical detail, encourages students from diverse backgrounds to think generally and conceptually about parasites and parasitism.

Two core philosophies underlie the second edition of 'Parasitism.' The first is that complex interactions that occur between parasites and their hosts - from the molecular cross-talk that occurs at the host-parasite interface, to the effects of parasites on host communities - are fundamentally ecological. The second is that a real appreciation for the phenomenon of parasitism requires knowledge of how natural selection has shaped parasite life cycles, life histories, and morphologies to solve particular problems associated with the parasitic lifestyle. Thus, for senior undergraduates that are being introduced to the phenomenon of parasitism in animals, the authors see a need for a single text with dual focus on the biodiversity and ecology/evolution



of parasites. This dual, interdisciplinary approach, under one cover, is the hallmark of the text. The 17 chapters, eight of which are new since the first edition, have been thoroughly revised to meet the needs of a new generation of parasitology students, whether their interests lie in ecology, conservation biology, evolution, immunology, medical, wildlife, or veterinary sciences.

Reviews from Amazon.com:

"Combining the classical approach of presenting a summary of the biology of the major groups of parasites, with a broad overview of parasite ecology and evolution, this new edition will be a wonderful resource for teachers of undergraduate parasitology courses. The well-illustrated and easy-to-read text is unrivalled at the moment and will be a great tool to turn on a new generation of young minds to the wonders of parasitic organisms. A true parasitological tour de force!"

Robert Poulin, University of Otago

"This is an extremely well written book that does an excellent job of integrating conceptual and organismal aspects of parasitology, which is not easy. The chapter on the evolution of host-parasite interactions does a very nice job of integrating micro- and macro-evolutionary approaches to this topic. The use of boxes to contain historical information and case studies is very effective. Personal accounts of the authors' own experiences studying and teaching parasitology are interesting and effective."

Dale H. Clayton, University of Utah

"The authors have done a terrific job of implementing the dual approach stated in the title. The book combines a comprehensive and balanced presentation of parasite biodiversity with an insightful treatment of the various aspects of the ecology of host/parasite interactions. Their approach is synthetic, refreshingly original and effectively blends coverage of long-standing fundamentals of parasitology with modern advances in the field. Their clever use of text boxes highlighting intriguing parasitological examples is sure to capture the imagination of students of parasitology and other fields of biology alike, serving to illustrate the relevance and importance of the discipline overall."

Janine N. Caira, University of Connecticut

"Interest in the ecology of infectious disease is exploding, often drawing in researchers with little background in the zoology of parasites. Parasitism gives the student both the systematic and zoological background to understand parasitology and the ecological and evolutionary context to understand why it is important to understand parasites. The authors, all extreme parasitophiles, have unmatched histories of teaching parasites to past and current generations of students. It is safe to say that Jerry Esch has read more papers about parasites than any living human. As a team, their approach is clear and scholarly, with many important updates since the first edition."

Kevin D. Lafferty, US Geological Survey, University of California, Santa Barbara

"This is a wonderful and tractable text well suited for the undergraduate taking survey-type parasitology courses and those senior undergraduates enrolled in specialized courses on the ecology and evolution of parasites. It is a ready reference for researchers interested in the current state of knowledge of similar study problems as their own. There is a wealth of detail for well-selected examples, building on the rich experience of the authors as top-notch researchers and educators. Many examples are of medical or veterinarian or wildlife and conservation importance, meaning that they are particularly well suited to help deliver key problems and



conceptual and empirical advances. This text is undoubtedly one that will come off the shelf again and again as students delve into the complex interactions between species of parasites and hosts and their current and past environments."

Mark R. Forbes, Carleton University

"This is a well-organized integration of the diversity of ideas and methods that characterize this new field of parasite ecology. The style is easily readable, the details extraordinary, the story told from an evolutionary perspective. The first chapters lay the foundations for understanding parasite life cycles, describing the full diversity of weird and wonderful adaptations of these organisms. The focus on the organismal view is exciting, and written in the context of ideas from classic ecology. The short stories in the boxes add interesting talking points. This is a well-researched document, and even the pros will learn from this book; the literature cited sections at the chapter ends are thorough and up-to-date. The final chapters on ecology and evolution are very synthetic, and the use of examples of diverse parasite strategies to illustrate the history and current status of the field's major ideas works well. I highly recommend this book."

Michael V. K. Sukhdeo, Rutgers University



Figure 2. Tim Goater and 4 of his students showing off the new edition of the *Parasitism* textbook in the ecological parasitology laboratory at Vancouver Island University (Photo courtesy of Marilyn Assaf)



American Society of Parasitologists Meeting 2014



You should now be registered for the 89th Annual Meeting of the American Society of Parasitologists
July 24-27, 2014 New Orleans, Louisiana

Online registration for the 2014 Annual Meeting is available. Click [here](#) to register.



Transfer of the US-National Parasite Collection

Contributed by Eric P. Hoberg¹ and Anna J. Phillips²

¹ US National Parasite Collection, Agricultural Research Service, USDA, Beltsville, MD 20705, USA

² Department of Invertebrate Zoology, Smithsonian's National Museum of Natural History, Washington, DC 20560, USA

Over the past 120 years since its founding in 1892, the United States National Parasite Collection (NPC), a cornerstone of global and North American parasitology, has been maintained by scientists and curators of the Agricultural Research Service of the United States Department of Agriculture (USDA). Initially held in Washington, D.C., for over 70 years the collection has been curated at the Beltsville Area Research Center in Maryland. The NPC holdings include in excess of 100,000 catalogued specimen lots (potentially thousands of individuals per lot) of animal parasites focusing on helminths and to a lesser extent other groups; included are approximately 3,000 holotypes and 7,000 type series. Historically among the most active parasite collections in the world, annual growth is estimated to be between 1,000 and 1,500 specimen lots, and loan activity has been significant in support of a broad global community. The history of the collection has been summarized previously (Becklund, 1969, Andrews, 1987, Lichtenfels *et al.*, 1992, Hoberg, 2002). In addition to the collections at the Harold W. Manter Laboratory of Parasitology (University of Nebraska - Lincoln) and the Parasitology Division, Museum of Southwestern Biology (University of New Mexico), the NPC is one of the largest museum repositories and archives for parasites in North America, and among the most significant globally, serving as an irreplaceable resource for research programs emphasizing biodiversity and systematics of parasites and complex host-parasite systems.

Transfer details

In 2013 an agreement was articulated between the USDA/ARS and the Smithsonian Institution to transfer the NPC in its entirety (fluid specimens, slide specimens, frozen tissues, and reprints) to the National Museum of Natural History (NMNH) in Washington, D.C. Current collections staff, including senior curator Dr. Eric P. Hoberg and support scientists/managers from the ARS will be transferred with the collection and with adjunct appointments in the NMNH will provide continuity and assistance for curation and accessibility during and after the relocation. New curatorial controls will be established under NMNH guidance by Dr. Anna J. Phillips and collections management policy of the NMNH as



implemented by the Department of Invertebrate Zoology at the Smithsonian.

Operational responsibility for curation and management of the NPC, including new accessions, cataloging, loan processing, information requests and visitor support will be shifted from the ARS to the NMNH on 2 June 2014. Smithsonian protocols will be adopted, and stakeholders and users of the collection are asked to refer directly to the NMNH. Information about procedures for donation of specimens, policies for loans, including requests for destructive sampling, and arranging scientific visits can be found at the website for the NMNH Department of Invertebrate Zoology Collections (<http://invertebrates.si.edu/collections.htm>). The web interface of the NMNH Department of Invertebrate Zoology specimen catalog can be accessed at: collections.nmnh.si.edu/search/iz/. During the transition, the final version of the NPC database as it exists on 30 May, 2014, will be available as a single downloadable Excel file from the NMNH Department of Invertebrate Zoology website. We anticipate a migration of this database into the EMu platform of the NMNH during the coming 24 months.

New material/specimens should be sent with advance notice to:

ATTN: IZ Collections Manager – NMNH Invertebrate Zoology, Smithsonian Museum Support Center, 4210 Silver Hill Road, Suitland, MD 20746, USA.

Physical Move

The physical move of the collection is expected to begin in October 2014. In anticipation of this process we ask the community to: (1) Return all outstanding loans of NPC specimens (to ARS, Beltsville) prior to 2 June 2014 or retain the loans until the transfer has been completed, (2) Expect that new loans during this period (up to the time the transfer is completed) will not be processed, other than in exceptional cases and at the discretion of the current curator, (3) Accept our apology for the disruption of normal services (loans and accessions) during the time frame of 18-24 months following the transfer of operations. After 2 June 2014, individuals planning to deposit large series of specimens (i.e. greater than 50 lots) are encouraged to either retain materials until after the transfer of the NPC is completed or to arrange for deposition in alternate parasitological collections. During this period, NMNH on a case-by-case basis and with advance notice may be able to accept specimens with a high scientific priority (i.e. publications pending and types).

More information

Please go to the NMNH Department of Invertebrate Zoology website (<http://invertebrates.si.edu>) for updates on the transfer and transition of the NPC.



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ASP MEETING DATA

Gear up for the exciting **Annual Meeting of the ASP in New Orleans, LA** (<http://amsocparasit.org>).

Save the dates!



89th Annual Meeting of the American Society of Parasitologists

July 24-27, 2014

JW Marriott New Orleans
New Orleans, Louisiana



90th Annual Meeting of the American Society of Parasitologists

June 25-28, 2015

Hilton Omaha, Omaha, Nebraska



91st Annual Meeting of the American Society of

July 11-14, 2016

Westin Hotel, Edmonton, Alberta, Canada



FREE Parasitology Lab Exercises - JANOVY

John Janovy's parasitology lab exercises (BIOS 385 at the University of Nebraska-Lincoln), 2006-2010, can be obtained as a free download in several different e-book formats from:

<http://www.smashwords.com/books/view/362387>.

Those exercises should also be available free on nook and some other e-readers (but probably not kindle, at least yet). His exams and Friday quizzes from that same course, in that same period, are also available free from:

<http://www.smashwords.com/books/view/350906>.

Visit and "Like" the ASP FACEBOOK Page.

The ASP has a FACEBOOK page. Stop in and check it out. Like it and make it a place that is useful for parasitology and sharing data about parasites. The Manter Laboratory has a FACEBOOK page, too, and many other collections are using social media to keep others informed. You can get to the ASP FACEBOOK page by visiting the home page of the ASP.

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The oldest issues (starting in 1914 and running up to now about 1980 - we are now updating the archive up to 2012) are available online free to anyone at the UNL Digital Commons. You can get there by visiting the ASP web page and following the links. Or go here: <http://digitalcommons.unl.edu/jrn/parasitology/>



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Note to Members -

The ASP Newsletter welcomes news stories, articles, poetry, photographs, etc. Please send your text electronically to the editor as an e-mail and attach as an MS Word document. Drawings, photographs, charts, or tables can be sent as B/W TIF files at 300 dpi. A general rule is to limit photograph size

--Readers want to know – what happened to the Dick and John column? Did they really retire? Did they forget how to communicate?

-Editor

to 3x5". You may attach both text and graphic files to your email message.

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