

# PEROTIMES



UNIVERSITY OF  
**SOUTH CAROLINA**

SPRING 2016,

SERIES II, ISSUE 1



## THE NEWSLETTER OF THE PEROMYSCUS GENETIC STOCK CENTER

### Editorial

Dear *Peromyscus* users,

I welcome you to *Perotimes*, the Newsletter of the PGSC. While in the past such Newsletters may constituted media for the dissemination of scientific information, today, web-based types of storage and publishing renders this feature of the Newsletters obsolete. Thus, *Perotimes* will only be distributed electronically and will be kept at minimal size.

In this first issue of the *Perotimes* I would like to seize the opportunity and invite you to share your comments/ideas for the

improvement of the services of the PGSC and also to welcome contributions, such as small articles, notes and thoughts on an informal basis, for current topics of potential interest to *Peromyscus* users.

This inaugural edition of the new series (II) of our newsletter occurs at times that are difficult for PGSC in particular and the Live Stock Centers in general. Financial constraints pose danger in the mere existence of several Live Stock Centers across the country

The recent “hiatus” of NSF, for 2016, in the Collections in Support of Biological Research (CSBR) escalates the fears and increases the

insecurity of not only those that are associated with the Centers on an employer-employee basis but also for those that are making decisions on investing their scientific career on *Peromyscus* or other “non-mainstream” model organisms. Fortunately, the support of the University of South Carolina, and in particular of the Office of the VP of Research, Professor P. Nagarkatti, kept the center alive.

At this point, all we can do is remain optimistic that the PGSC, like the *Peromyscus*, will still be around for some time.

**Hippokratis Kiaris**

**PGSC Director**

## Opinion

### Why Live Stock Centers cannot depend exclusively on utilization

Maintaining and supporting Live Stock Centers is certainly very costly and has to be justifiable. Several alternative business plans have been proposed that frequently increase the role of utilization and its contribution to the sustainability of Live Stock Centers. While this remains challenging and logistically sound, it bears a number of intrinsic limitations that may compromise the value of the Centers as providers of certain stocks to the scientific community in an uninterrupted and continuous basis. First, since Centers in order to remain viable will attempt to keep their operational costs at minimal levels, supply will have to remain constantly lower than the demand. The unavoidable increase in the cost of animals may result in the establishment of peripheral colonies, for which the cost of maintenance can be lower than that of purchasing the animals from the Center. Since the Centers however, “guaranty” certain quality thresholds to their users, bypassing them may have certain implications in the reproducibility of the results generated by investigators using practically different stocks. The availability of reagents and importantly stocks to other investigators may also be impeded since obviously, stocks will not be maintained at levels sufficient to satisfy external supply.

For these and other reasons, the notion that utilization has to be the major component of Center’s sustainability, may have to be reconsidered.

H. Kiaris



From J. Heredity 1993:84(4)

## FROM THE RECENT LITERATURE

1. Relative Preference and Localized Food Affect Predator Space Use and Consumption of Incidental Prey. Schartel TE, Schauber EM. *PLoS One*. 2016 Mar 15;11(3):e0151483. doi: 10.1371/journal.pone.0151483.
2. Estrogen Receptor Alpha Distribution and Expression in the Social Neural Network of Monogamous and Polygynous *Peromyscus*. Cushing BS. *PLoS One*. 2016 Mar 9;11(3):e0150373. doi: 10.1371/journal.pone.0150373.
3. Toward a Mechanistic Understanding of Environmentally Forced Zoonotic Disease Emergence: Sin Nombre Hantavirus. Carver S, Mills JN, Parmenter CA, Parmenter RR, Richardson KS, Harris RL, Douglass RJ, Kuenzi AJ, Luis AD. *Bioscience*. 2015 Jul 1;65(7):651-666.
4. What Is *Peromyscus*? Evidence from nuclear and mitochondrial DNA sequences suggests the need for a new classification. Platt RN 2nd, Amman BR, Keith MS, Thompson CW, Bradley RD. *J Mammal*. 2015 Aug 3;96(4):708-719. Epub 2015 May 13.
5. Molecular and morphologic data reveal multiple species in *Peromyscus pectoralis*. Bradley RD, Schmidly DJ, Amman BR, Platt RN 2nd, Neumann KM, Huynh HM, Muñiz-Martínez R, López-González C, Ordóñez-Garza N. *J Mammal*. 2015 Apr 25;96(2):446-459.
6. Embryonic Development of the Deer Mouse, *Peromyscus maniculatus*. Davis SW, Keisler JL. *PLoS One*. 2016 Mar 1;11(3):e0150598. doi: 10.1371/journal.pone.0150598. PMID: 26930071
7. Validating mammalian resistance to stressor-mediated reproductive impact using rodent sperm analysis. Tannenbaum LV, Beasley JC. *Ecotoxicology*. 2016 Apr;25(3):584-93. doi: 10.1007/s10646-016-1617-

8. Optimal foraging behavior and the thermal neutral zone of *Peromyscus leucopus* during winter: A test using natural and controlled ambient temperatures. St Juliana JR, Mitchell WA. *J Therm Biol.* 2016 Feb;56:109-12. doi: 10.1016/j.jtherbio.2016.01.008.
9. Bohr effect and temperature sensitivity of hemoglobins from highland and lowland deer mice. Jensen B, Storz JF, Fago A. *Comp Biochem Physiol A Mol Integr Physiol.* 2016 May;195:10-4. doi: 10.1016/j.cbpa.2016.01.018.
10. Behavioural differences: a link between biodiversity and pathogen transmission. Dizney L, Dearing MD. *Anim Behav.* 2016 Jan 1;111:341-347.
11. Neurogenesis and anxiety-like behavior in male California mice during the mate's postpartum period. Hyer MM, Hunter TJ, Katakam J, Wolz T, Gasper ER. *Eur J Neurosci.* 2016 Mar;43(5):703-9. doi: 10.1111/ejn.13168. 9
12. Detection of Chlamydia infection in *Peromyscus* species rodents from sylvatic and laboratory sources. Ramsey KH, Sigar IM, Schripsema JH, Townsend KE, Barry RJ, Peters J, Platt KB. *Pathog Dis.* 2016 Apr;74(3). pii: ftv129. doi: 10.1093/femspd/ftv129.

13. Phylogeographic Structure of the White-footed Mouse and the Deer Mouse, Two Lyme Disease Reservoir Hosts in Québec. Fiset J, Tessier N, Millien V, Lapointe FJ. *PLoS One.* 2015 Dec 3;10(12):e0144112. doi: 10.1371/journal.pone.0144112
14. Sex-Specific Effects of Stress on Oxytocin Neurons Correspond With Responses to Intranasal Oxytocin. Steinman MQ, Duque-Wilckens N, Greenberg GD, Hao R, Campi KL, Laredo SA, Laman-Maharg A, Manning CE, Doig IE, Lopez EM, Walch K, Bales KL, Trainor BC. *Biol Psychiatry.* 2015 Oct 19. pii: S0006-3223(15)00824-0. doi: 10.1016/j.biopsych.2015.10.007
15. Cranial morphological variation in *Peromyscus maniculatus* over nearly a century of environmental change in three areas of California. Holmes MW, Boykins GK, Bowie RC, Lacey EA. *J Morphol.* 2016 Jan;277(1):96-106. doi: 10.1002/jmor.20482.

### *Why Peromyscus from PGSC*

**PGSC** is the only *Peromyscus* Center in the US and indeed the in world

**PGSC** maintains and can supply truly outbred animals from a number of different species reflecting naturally occurring wild type populations

**All** animals are pedigreed and can be traced back to the time that the populations had been established in captivity

### NEWS AND NOTES

#### NOTICE

*Perotimes*, the PGSC newsletter is not a formal scientific publication. Therefore, information and data should not be cited or used without permission of the contributor.

#### PERO-RESEARCHERS

*PIs* are welcome to indicate postdocs and graduate students that recently published on *Peromyscus* or defended a Thesis, in order to promote their work in *Perotimes*.

#### Article in Science

Read the article in *Science*, by Nala Rogers (Mar. 25, 2016) on NSF's decision to o pause collections funding program here:

<http://www.sciencemag.org/news/2016/03/biologists-ask-nsf-reconsider-plan-pause-collections-funding-program>

#### e-mailing list

If you want to be included in our email list and receive future *Perotimes* editions, email Janet Crossland at [janet@sc.edu](mailto:janet@sc.edu)

**PGSC is supported by NSF grant 1349230: "CSBR: Living Stocks - A Genetic Stock Center for *Peromyscus*"**

# News and updates from the PGSC

Below, the email sent by PGSC to *Peromyscus* users last February is attached.

*“The Peromyscus Genetic Stock Center at USC is in the process of reconsidering the numbers of Peromyscus stocks actively maintained in order to better serve the several users and meet their demands.*

*Therefore, a number of stocks will not be maintained anymore since the demand for those ranges from limited to non-existing during the last few years. Those include the various coat color mutants as well as the various neurological mutants we used to maintain. We note that of course sperm from all these deer mice has been cryopreserved at the Mutant Mouse Resource Research Center (MMRRC).*

*Unless we hear back from you that you plan or anticipate to use any of these lines within the next year or so, we will stop maintaining them by this April.*

*I hope that in the future, we will be able to maintain these as well as additional lines that can be of interest.”*

PGSC

## *Peromyscus Genetic stock center*

Hippokratis Kiaris PhD Director

Janet P. Crossland RLATG, Colony Manager

### *Advisory Committee*

*John M. Cullen, North Carolina State University*

*Lisa Krugner-Higby, University of Wisconsin – Madison*

*David W. Threadgill, Texas A&M University*

*S. Randal Voss, University of Kentucky*

PGSC

Office of Research

JM Palms Center for Graduate Research

631 Sumter Street - Suite 102

University of South Carolina

Columbia, SC 29208

Phone: (803) 777-3107 or 777-1212

Fax: (803) 576-5780

Email: [janet@sc.edu](mailto:janet@sc.edu)

<http://stkctr.biol.sc.edu>