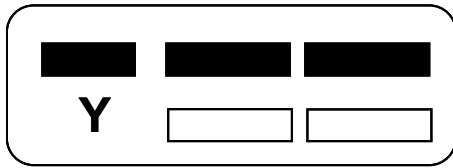


The genetics of sperm size



Male *Drosophila melanogaster* genome and sperm

Sperm are the most variable of all animal cells – no other cell shows such a dramatic variation in size, shape and component parts. Research into understanding this variation is still in its infancy and there are only a handful of studies that have investigated the basic genetics of sperm form. For example, we still do not know whereabouts in the genome are the genes coding for sperm form. Basic mapping of these traits would therefore make an important contribution to the field.

This project will use the latest methods in quantitative genetics (hemiclonal analysis) to investigate the basic genetics of sperm size in *Drosophila melanogaster*. The methodology necessary is already established in our lab and a clear project plan is available although there is some flexibility in the project direction. Training will be given in methods of *Drosophila* culturing, dissection, slide preparation, image analysis and quantitative genetics.

This project is expected to lead to a scientific publication and so an enthusiastic and dedicated student is required.

Letters of interest should be emailed to ted.morrow@ebc.uu.se

Supervisor: Ted Morrow

Department of Animal Ecology

Webpage: <http://www.iee.uu.se/zooekol/default.php?type=personalpage&id=119&lang=en>

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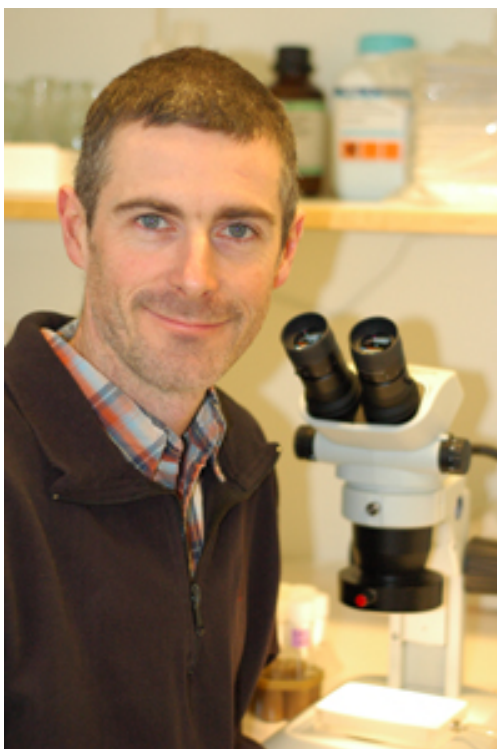
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Ted Morrow, assistant professor



[Publications](#)

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My Research

My research so far has been mostly related to some aspect of [sexual selection](#). I am currently interested in sexual conflict and determining how important it may be in phenotypic evolution, whether its signature can be found in patterns of gene expression, as well as its importance in processes of reproductive isolation. A second interest is in the evolution of sperm morphology and size. Sperm are the most variable of animal cells and I am interested in contributing to our somewhat sparse understanding of this diversity.

Brief C.V.

2005-2009 Forskarassistent, Uppsala University ([funding: VR](#))

2003-2005 Postdoc, [UC Santa Barbara](#) (USA) with [Bill Rice](#)

2000-2003 Postdoc, [Umeå](#) and Uppsala University with [Göran Arnqvist](#)

2000 PhD, [University of Liverpool](#) (UK) supervised by [Matt Gage](#)

Current Lab Members

[Paolo Innocenti](#) started his PhD project in April 2007. His project will examine gene expression in relation to sexual conflict using *D. melanogaster*.

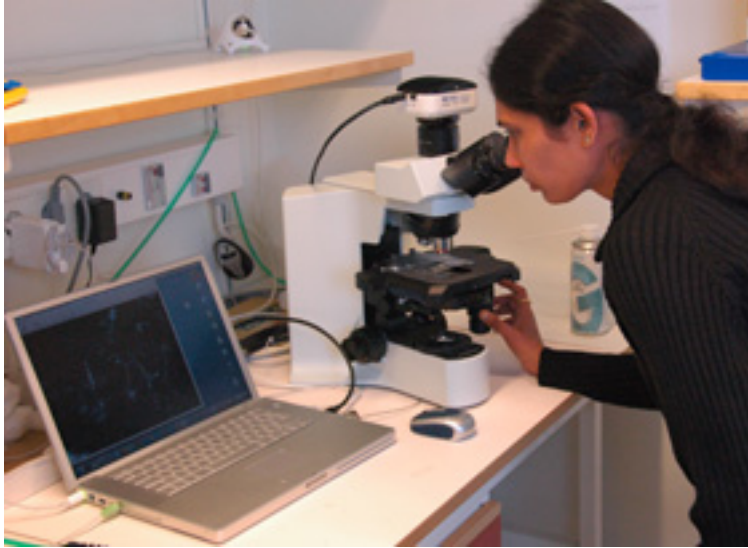


[Richard Bailey](#) is a postdoc working with [Anna Qvarnström](#) (PI), [Urban Friberg](#) and myself on a project that will examine the genetics of reproductive isolation in divergent populations of *D. melanogaster*.



Aparna Meerupati conducted her "forskningspraktik" in my lab and has begun her Examen/honours

project to construct a molecular phylogeny of cimicomorphan bugs.

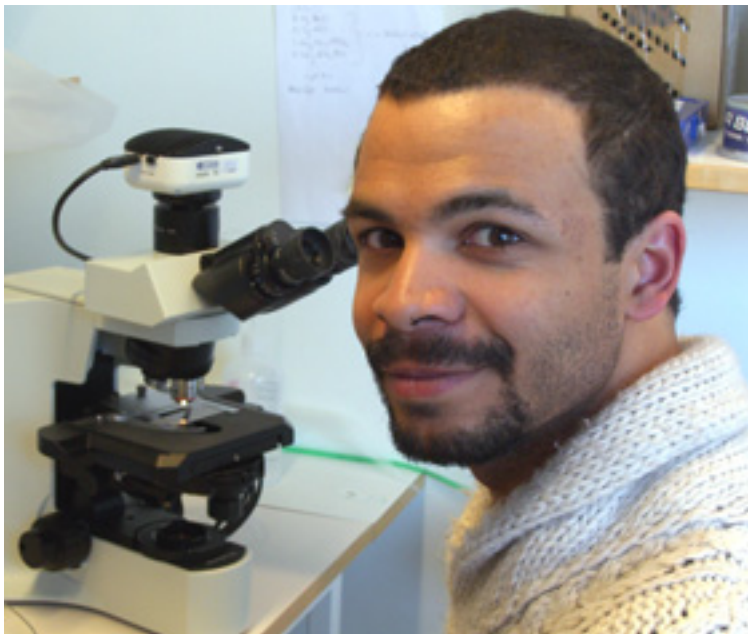


Stefan Hornostaj is from Warsaw University, Poland and will be carrying out his Master's project in my lab. He is interested in insect immunity.

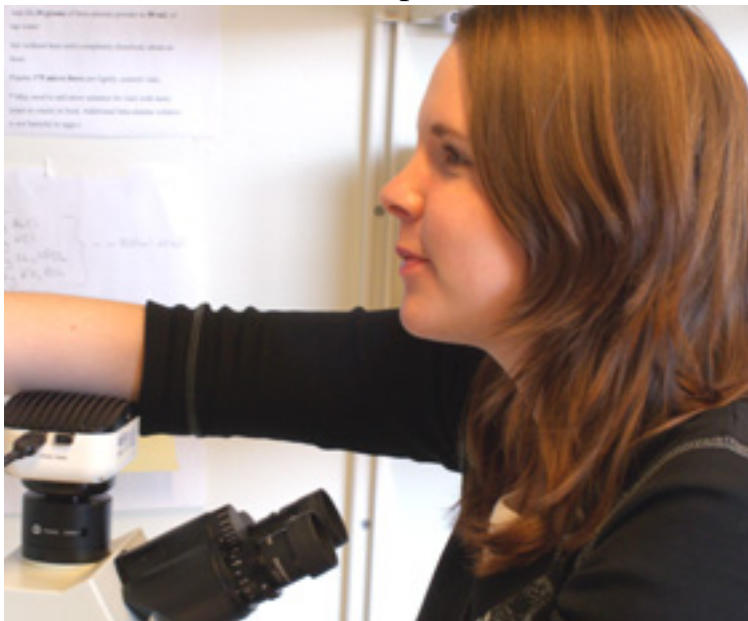


Lab Alumni

Nicolas Rode from Lyon, carried out his honours project which aimed to examine the reaction norms for adult male fitness and body condition, in *D. melanogaster*.



Agnes Leijon worked on her honours (Examen) project here which was concerned with environmental effects on sperm size in *D. melanogaster*.



Mikiko Skoglund completed her 1 month "forskningspraktik" in my lab during 2006.

Bram Kuijper worked in my lab as a guest researcher for 3 months in 2006. He is currently beginning a PhD at the [Department of Theoretical Biology, Univ. Groningen](#).

Past Collaborators

Andrew Stewart currently in the [Rice lab, UCSB](#)

Tim Lew a Master's student at UCSB

[Claudia Fricke](#) (UEA, UK)

[Scott Pitnick](#) (Syracuse)

[Trevor E. Pitcher](#) (University of Windsor, Canada)

José Andrés currently in the [Harrison lab, Cornell](#)

Invited Talks and Lectures

"Sexual conflict in *Drosophila melanogaster*" (7th June 2007) Mini-symposium on Sperm Competition and Sexual Conflict, Stockholm University.

"Conflict and choice in reproduction" (15 March 2007) SERL 3rd Meeting in Ecology and Behaviour, CNRS Montpellier, France.

"Könskonflikter i naturen" (20 april 2006) Part of a popular science seminar series for the general public "Utvecklingssamtal för nyfikna". Fries-salen, EBC, Uppsala University

"Fertilization in mammals - an evolutionary perspective" (27 November 2006) CRU postgraduate course "Fertilization and Implantation in Mammals". SLU, Ultuna, Uppsala.

Opportunities

If you are an undergraduate, graduate, postgraduate or postdoc and would like to carry out some research in my lab then please get in touch. Email me at ted.morrow@ebc.uu.se. There are number of ways funding can be arranged either from your own country or via the numerous [Swedish funding bodies](#).

Some Selected Publications

A complete list with pdfs can be found [here](#).

[Morrow, E.H., Stewart, A.D. and W.R. Rice. 2005](#). Patterns of sperm precedence are not affected by female mating history in *Drosophila melanogaster*. *Evolution* 59, 2608–2615.

[Stewart, A.D., E.H. Morrow, and W.R. Rice. 2005](#). Assessing putative interlocus sexual conflict in *Drosophila melanogaster* using experimental evolution. *Proceedings of the Royal Society series B* 272, 2029-2035.

[Morrow, E.H. 2004](#). How the sperm lost its tail: the evolution of aflagellate sperm. *Biological Reviews of the Cambridge Philosophical Society* 79, 795-814.

[Andrés, J.A. and E.H. Morrow. 2003](#). The origin of interlocus sexual conflict: is sex-linkage important? *Journal of Evolutionary Biology* 16, 219-223.

[Morrow, E. H. and Arnqvist, G. 2003](#). Costly traumatic insemination and a female counteradaptation in bed bugs. *Proceedings of the Royal Society series B* 270, 2377-2381.

[Morrow, E.H. and M.J.G. Gage. 2000](#). The evolution of sperm length in moths. *Proceedings of the Royal Society series B* 267, 307-313.

Links

[Flybase](#) is the #1 resource for fly workers. It also has good links to other sites. Check out their page explaining [genetic nomenclature](#).

[Drosophila Virtual Library](#) also has a useful collection of links.

[Flystuff.com](#) is a good place for fly-pushing equipment.

And for those long lonely hours in the lab - it has to be the [BBC](#).

Teaching

Insect biology and diversity (2006, 2007)

[Lecture 1.pdf](#)

[Lecture 2.pdf](#)

Ethology Masters - Stockholm University 23rd Oct 2007

[Sexual conflict.pdf](#)

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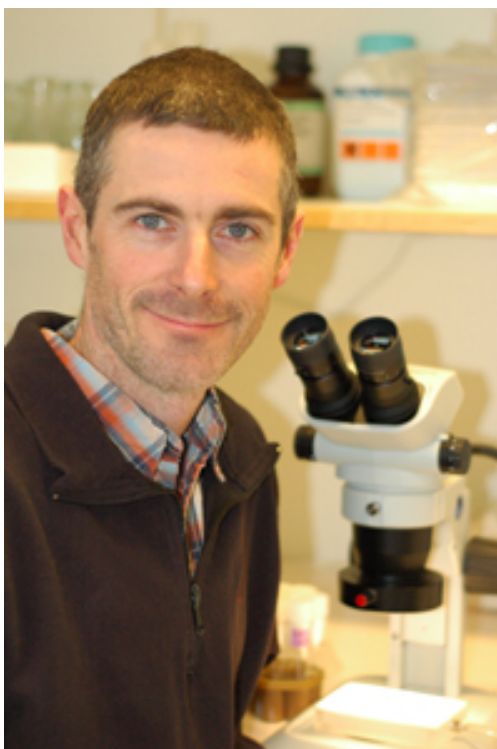
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Ted Morrow, forskare



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Min forskning

Jag är en forskarassistent ([VR](#)). Mitt projekt handlar om könskonflikt och artbildning. För detta projekt använder jag bananflugor *Drosophila melanogaster*.



Foto: Ted Morrow

Några Publikationer

Mer komplett lista [här](#).

[Morrow, E.H., Stewart, A.D. and W.R. Rice. 2005](#). Patterns of sperm precedence are not affected by female mating history in *Drosophila melanogaster*. *Evolution* 59, 2608–2615.

[Stewart, A.D., E.H. Morrow, and W.R. Rice. 2005](#). Assessing putative interlocus sexual conflict in *Drosophila melanogaster* using experimental evolution. *Proceedings of the Royal Society series B* 272, 2029-2035.

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[Morrow E.H. and C. Fricke. 2004](#). Sexual selection and the risk of extinction in mammals. *Proceedings of the Royal Society series B* 271, 2395-2401.

[Morrow, E.H., T.E. Pitcher, and G.A. Arnqvist. 2003](#). No evidence that sexual selection is an "engine of speciation" in birds. *Ecology Letters* 6, 228-234. *Ecology Letters* 6, 228-234.

[Andrés, J.A. and E.H. Morrow. 2003](#). The origin of interlocus sexual conflict: is sex-linkage important? *Journal of Evolutionary Biology* 16, 219-223.

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