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Vestergaard Frandsen is a rapidly growing company founded in Denmark in 1957. We specialise in complex emergency response and disease control textiles, with a focus on waterborne and vector-borne disease. **Read more**

Publications

[Open access](#) | **Age composition of incriminated malaria vector in a rural foothills in West Bengal, India**

G. Chandra

Indian J Med Res 127, June 2008, pp 607-609

Two 1 yr surveys carried out at a gap of 10 yr revealed nine anopheline species from malaria endemic foothills area of Ayodhya - Baghmindi range of West Bengal, India, with 8.4 per cent populations of Anopheles culicifacies. An. culicifacies was incriminated as vector of Plasmodium falciparum with sporozoite rate of 1.23 per cent. Studies on age composition indicated that proportion parous and daily survival rate of An. culicifacies were assessed to be 0.50 and 0.84 respectively. The survival rate per gonotrophic cycle averaged over the two year was 0.61. Rainy season was found to be the favourable period for transmission.

[Open access](#) | **Evolution of virulence in malaria**

Bridget Penman, Sunetra Gupta

Journal of Biology 2008, 7:22 (28 August 2008)

The pathogenesis of severe malarial disease is not yet fully understood. It is clear that host immunopathology plays a central role, and a recent paper in BMC Evolutionary Biology suggests that the ability of the parasite to stimulate interleukin-10 production is a major factor and speculates on its impact on the coevolution of host and parasite.

[Open access](#) | **Var2CSA DBL6-epsilon domain expressed in HEK293 induces limited cross-reactive and blocking antibodies to CSA binding parasites**

Pablo Fernandez, Nicola K Viebig, Sebastien Dechavanne, Catherine Lepolard, Jurg Gysin, Artur Scherf, Benoit Gamain

Malaria Journal 2008, 7:170 (4 September 2008)

Experiments designed to express domains of the var2csa protein, to raise antisera in mice and examine their ability to recognize the protein on infected cells and to inhibit parasite binding.

[Open access](#) | **Plasmodium falciparum gametocyte sex ratios in children with acute, symptomatic, uncomplicated infections treated with amodiaquine**

Akintunde Sowunmi, Sulayman T Balogun, Grace O Gbotosho, Christian T Happi

Malaria Journal 2008, 7:169 (2 September 2008)

Understanding how antimalarial drugs influence the transmission of parasites from treated infections is important from clinical, evolutionary and epidemiological perspectives.

[Open access](#) | **An age-structured model to evaluate the potential of novel malaria-control interventions: a case study of fungal biopesticide sprays**

P.A. Hancock, M.B. Thomas & H.C.J. Godfray

Proceedings of The Royal Society B, FirstCite Early Online Publishing

The model follows the dynamics of different classes of adult mosquitoes with the risk of mortality due to the fungus being assumed to be a function of time since infection (modelled using the Weibull distribution). It is shown that substantial reductions in mosquito numbers are feasible for realistic assumptions about mosquito, fungus and malaria biology and moderate to low daily fungal infection probability. The choice of optimal fungal strain and spraying regime is shown to depend on local mosquito and malaria biology. Fungal pathogens may also influence the ability of mosquitoes to transmit malaria and such effects are shown to further reduce vectorial capacity.

Malaria and bacterial sepsis: Similar mechanisms of endothelial apoptosis and its prevention in vitro

Christoph J. Hemmer, Anna Vogt, Marcus Unverricht, Robert Krause, Matthias Lademann, Emil C. Reisinger

Critical Care Medicine. 36(9):2562-2568, September 2008

These in vitro results show how neutrophils can contribute to endothelial damage in malaria and in sepsis, both by their secretory products and by binding to intercellular adhesion molecule-1 on endothelial cells. The presence of similar pathomechanisms suggests that similar antiapoptotic strategies may offer potential benefit in malaria and in sepsis.

Editorial: Apoptosis of endothelial cells in bacterial sepsis and severe Plasmodium falciparum malaria: Do we know enough to consider clinical trials?

Fawaz Mzayek, Joni Ylöstalo, Donald J. Krogstad

Critical Care Medicine. 36(9):2690, September 2008

No abstract available

Discussion: The molecular forms of Anopheles gambiae: A phenotypic perspective

Tovi Lehmann, Abdoulaye Diabate

Infection, Genetics and Evolution, Volume 8, Issue 5, September 2008, Pages 737-746

Here, we review recent studies suggesting that selection mediated by larval predation and competition promoted divergence between temporary and permanent freshwater habitats. These differences explain the sharp discontinuity in distribution of the molecular forms between rice fields and surrounding savanna, but they can also explain the concurrent cline between humid and arid environments due to the dependence on permanent habitats in the latter.

Solid microemulsion concentrate (NanOsorb) of artemether for effective treatment of malaria

Medha Joshi, Sulabha Pathak, Shobhona Sharma, Vandana Patravale

International Journal of Pharmaceutics, Volume 362, Issues 1-2, 1 October 2008, Pages 172-178

A microemulsion concentrate was formulated on the basis of solubility of artemether (ARM) in the various oily phases and surfactants and phase diagrams. Various solid adsorbents were evaluated for their ability to yield solid microemulsion concentrates (NanOsorb-ARM). Subacute toxicity studies demonstrated that NanOsorb-ARM is comparatively safer than artemether oily solution with respect to survival, gross pathology, hematology and serum biochemistry in mice of both the genders.

Development of SMEDDS using natural lipophile: Application to β -Artemether delivery

Sagar D. Mandawgade, Shobhona Sharma, Sulabha Pathak, Vandana B. Patravale

International Journal of Pharmaceutics, Volume 362, Issues 1-2, 1 October 2008, Pages 179-183

The objective of the present investigation was to formulate self-microemulsifying drug delivery systems (SMEDDS) using a novel, indigenous natural lipophile (N-LCT) as an oily

phase. The developed SMEDDS highlight safety for use and potential applications of indigenous natural lipophile in the development of novel colloidal drug carriers.

Imported Malaria in HIV-Infected Patients Enrolled in the ANRS CO4 FHDH Study

Christian Mouala, Sandrine Houzé, Marguerite Guiguet, Philippe Abboud, Gilles Pialoux, Nathalie Viget, Dominique Costagliola, Sophie Matheron

JAIDS Journal of Acquired Immune Deficiency Syndromes. 49(1):55-60, September 1, 2008

Severe imported malaria in human immunodeficiency virus type 1-infected patients is associated with decreased CD4 cell count. The risk seems lower when *P. falciparum* infection was acquired in areas of high prevalence of chemoresistance.

Lab report: Malaria Mechanism

Tracy Hampton

JAMA 2008;300 1016

The malaria parasite produces a number of proteins that empower it to hijack and remodel human red blood cells, according to a new study (Maier AG et al. *Cell*. 2008;134[1]:48-61). A team led by researchers at the Walter and Eliza Hall Institute of Medical Research in Melbourne, Australia, disabled a large number of genes to identify proteins that are exported into *Plasmodium falciparum*-infected red blood cells and are involved in remodeling these cells.

Species Composition and Distribution of Adult Anopheles (Diptera: Culicidae) in Panama

Loaiza, J. R.; Bermingham, E.; Scott, M. E.; Rovira, J. R.; Conn, J. E.

Journal of Medical Entomology, Volume 45, Number 5, September 2008 , pp. 841-851(11)

Anopheles (Diptera: Culicidae) species composition and distribution were studied using human landing catch data over a 35-yr period in Panama. *Anopheles* (Diptera: Culicidae) species composition and distribution were studied using human landing catch data over a 35-yr period in Panama.

Potential Distribution of Two Species in the Medically Important Anopheles minimus Complex (Diptera: Culicidae)

Foley, Desmond H.; Rueda, Leopoldo M.; Peterson, A. Townsend; Wilkerson, Richard C.

Journal of Medical Entomology, Volume 45, Number 5, September 2008 , pp. 852-860(9)

Anopheles minimus Theobald (=An. minimus A) and possibly *Anopheles harrisoni* Harbach & Manguin (=An. minimus C) are important malaria vector species in the Minimus Complex in Southeast Asia. The distributions of these species are poorly known, although detailed information could benefit malaria vector incrimination and control. We used published collection records of these species and environmental geospatial data to construct consensus ecological niche models (ENM) of each species' potential geographic distribution.

Operational Impact of DDT Reintroduction for Malaria Control on Anopheles arabiensis in Mozambique

Coleman, M.; Casimiro, S.; Hemingway, J.; Sharp, B.

Journal of Medical Entomology, Volume 45, Number 5, September 2008 , pp. 885-890(6)

With the increase in indoor residual spraying in many internationally and nationally funded malaria control programs, and affirmation by World Health Organization (WHO) that DDT is appropriate for use in the absence of longer lasting insecticide formulations in some malaria endemic settings, DDT has been reintroduced as a major malaria control intervention in Africa. Indoor residual spraying with DDT was reintroduced into Mozambique for malaria control in 2005, and it is increasingly becoming the main insecticide used for malaria vector control in Mozambique.

Active Transcription is Required for Maintenance of Epigenetic Memory in the Malaria Parasite *Plasmodium falciparum*

Ron Dzikowski, Kirk W. Deitsch

Journal of Molecular Biology, Volume 382, Issue 2, 3 October 2008, Pages 288-297

Here, we provide evidence that active transcription is required for the maintenance of the cellular memory that marks a specific var gene to be stably expressed through numerous cell cycles.

Structure of an insect epsilon-class glutathione S-transferase from the malaria vector *Anopheles gambiae* provides an explanation for the high DDT-detoxifying activity

Yujun Wang, Li Qiu, Hilary Ranson, Nongkran Lumjuan, Janet Hemingway, William N. Setzer, Edward J. Meehan and Liqing Chen

Journal of Structural Biology, Article in Press, Accepted Manuscript

No abstract available

News and Views: How does *Plasmodium falciparum* stick to CSA? Let's see in the crystal

Graham A Bentley & Benoît Gamain

Nature Structural & Molecular Biology 15, 895 - 897 (2008)

The crystal structure of the CSA-binding Duffy-binding-like domain DBL3x of the VAR2CSA-encoded PfEMP1 adhesin has been solved in the free state and complexed with CSA oligosaccharides, shedding light on the major host-parasite interaction in pregnancy-associated malaria.

Structure of the DBL3x domain of pregnancy-associated malaria protein VAR2CSA complexed with chondroitin sulfate A

Kavita Singh, Apostolos G Gittis, Phuc Nguyen, D Channe Gowda, Louis H Miller & David N Garboczi

Nature Structural & Molecular Biology 15, 932 - 938 (2008)

Plasmodium falciparum-infected erythrocytes bind to chondroitin sulfate A (CSA) in the placenta via the VAR2CSA protein, a member of the *P. falciparum* erythrocyte membrane protein-1 family, leading to life-threatening malaria in pregnant women with severe effects on their fetuses and newborns. Here we describe the structure of the CSA binding DBL3x domain, a Duffy binding-like (DBL) domain of VAR2CSA. By forming a complex of DBL3x with CSA oligosaccharides and determining its structure, we have identified the CSA binding site to be a cluster of conserved positively charged residues on subdomain 2 and subdomain 3. Mutation or chemical modification of lysine residues at the site markedly diminished CSA binding to DBL3x. The location of the CSA binding site is an important step forward in the molecular understanding of pregnancy-associated malaria and offers a new target for vaccine development.

In brief: Malaria's big bang was sparked by switching hosts

The New Scientist, Volume 199, Issue 2671, 27 August 2008, Page 14

Malaria and didn't evolve along with the animals it infects – a big bang in its evolution happened millions of years after vertebrates diversified.

Correspondence: Comment on: Point-of-care testing for malaria outbreak management

Subhash C. Arya, and Nirmala Agarwal

Transactions of the Royal Society of Tropical Medicine and Hygiene, Article in Press, Corrected Proof

No abstract available

Correspondence: Reply to comment on: Point-of-care testing for malaria outbreak management

Henk L. Smits

Transactions of the Royal Society of Tropical Medicine and Hygiene, Article in Press, Corrected Proof

No abstract available

Using malarial retinopathy to improve the classification of children with cerebral malaria

Susan Lewallen, Rachel N. Bronzan, Nicholas A. Beare, Simon P. Harding, Malcolm E. Molyneux and Terrie E. Taylor

Transactions of the Royal Society of Tropical Medicine and Hygiene, Article in Press, Corrected Proof

The mechanisms leading to death in cerebral malaria (CM) remain unclear. We compared clinical and laboratory data among children with CM, categorized by ocular fundus findings, to elucidate differences that suggest different underlying pathological processes. Differences among groups suggest that different underlying pathophysiological processes are operating in children with CM defined by existing criteria. Our proposed classification, by improving the specificity of diagnosis, would enhance consistency among different study sites and prove useful in future research studies.

Review: Mutually exclusive var gene expression in the malaria parasite: multiple layers of regulation

Thanat Chookajorn, Patrath Ponsuwanna and Liwang Cui

Trends in Parasitology, Article in Press, Corrected Proof

Although their results are still inconclusive, these studies have demonstrated the existence of multiple layers of control over gene activation, silencing, memory and 'counting'. This review attempts to summarize recent findings and dissect the different layers of var regulation.

Update: TRAP-like protein of Plasmodium sporozoites: linking gliding motility to host-cell traversal

Céline Lacroixa and Robert Ménard

Trends in Parasitology, Article in Press, Corrected Proof

To reach its final destination in the liver, the sporozoite (the stage of the malaria parasite that is transmitted by the mosquito vector) needs to glide through tissues and traverse host cells. Although the molecular bases of these behaviors are typically considered separately, two recent reports suggest the first molecular link between the two via a novel protein called 'TRAP-like protein'.

Review: Control to elimination: implications for malaria research

Brian M. Greenwood

Trends in Parasitology, Article in Press, Corrected Proof

Recent reports indicate that a high level of malaria control can be achieved with existing control tools once their use has been scaled up. This has led to renewed interest in the possibility of malaria elimination, an approach that is now supported by several influential organisations.

Review: Artemisinins: their growing importance in medicine

Sanjeev Krishna, Leyla Bustamante, Richard K. Haynes and Henry M. Staines

Trends in Pharmacological Sciences, Article in Press, Corrected Proof

In this review, we discuss recent advances in defining the role of artemisinins in medicine, with particular focus on their controversial mechanisms of action. This safe and cheap drug class that saves lives at risk from malaria can also have important potential in oncology.

Short communication: Chemically attenuated Plasmodium sporozoites induce specific immune responses, sterile immunity and cross-protection against heterologous challenge

Lisa A. Purcell, Kurt A. Wong, Stephanie K. Yanow, Moses Lee, Terry W. Spithill, Ana Rodriguez

Vaccine, Volume 26, Issue 38, 8 September 2008, Pages 4880-4884

Here we show that vaccination with CAS of *P. yoelii* also protects against homologous infection and that a *P. berghei* CAS vaccine cross protects against heterologous challenge with *P. yoelii* sporozoites. Vaccination with *P. yoelii* or *P. berghei* CAS induced parasite-specific antibodies and IFN- γ -producing CD8+ T cells at levels not significantly different from radiation-attenuated sporozoites. Our findings provide an initial characterization of the immune response generated by CAS vaccination and suggest that this attenuation process could be used in the production of an effective cross-protective liver stage vaccine for malaria.

Jobs

Team Leader: Technology in Protein Crystallography

University of Oxford, Nuffield Department of Clinical Medicine

Closing date for applications: Friday 12th September 2008

Ref: H9-08-019-SGC.

We are seeking a skilled crystallographer, with an active interest in instrumentation and methods development, to coordinate the technology programs in the Protein Crystallography (PX) group.

News

id21HealthNews 135, September 2008

HIV/AIDS, TB and malaria affecting slow progress in Africa

This study, written for African Heads of State and Ministers of Health attending the Summit, examines three key institutional factors affecting progress: political analysis, strategic business approach and international inputs. It draws on existing analytical work and studies, building on an understanding of the literature on institutional development, while also drawing from experience on the ground.

id21HealthNews 135, September 2008

Malaria treatment guidelines in Africa

First-line malaria treatment in most countries is now artemisinin-based combination therapy (ACT). Resistance will eventually develop to ACTs and policy must react rapidly to avoid the fatal delays seen with the replacement of chloroquine. This research involving the Liverpool School of Tropical Medicine, in the UK, focused on malaria caused by *Plasmodium falciparum* in African children under five years old in areas of moderate to high transmission.

id21HealthNews 135, September 2008

Free for all: mass ITN distribution cuts inequity in coverage

By September 2006, the three strategies were operating in parallel. To compare their impact on coverage and equity, researchers from the Kenya Medical Research Institute and Wellcome Trust Research Programme analysed annual data on 3700 children aged up to four years old in four districts.

id21HealthNews 135, September 2008

Changing pace: implementing a new malaria treatment policy in Kenya

In April 2004, the Kenyan Ministry of Health (MOH) decided to change the recommended first-line treatment for malaria. Why did it take more than 32 months to start implementing this decision? Research involving the Kenya Medical Research Institute looks at the steps and obstacles along the way.

31 August 2008, The New Scientist

Malaria's big bang was sparked by switching hosts

Malaria's ability to infect species as diverse as humans, birds and mice led us to assume that species-specific parasite strains had slowly evolved along with their hosts. Now it seems that the explosion in vertebrate diversity happened well before the parasite was able to infect them, ruling out the co-evolution theory.

General

29 August 2008, PR.com (press release)

Botswana & USA: End Malaria – Blue Ribbon Campaign Engages Families from Lesoma Village in Botswana

Botswana and United States teachers and students are working together with the support of the American Embassy, the Ministry of Health, local government officials, and the Malaria Foundation International (MFI) to engage community leaders and families from the Lesoma Village, Chobe District of Botswana in today's global fight against malaria.

28 August 2008, Market Watch

Exodus Film Group and "Igor" Join Forces With the "Against Malaria Foundation" and Malaria.com to Fight the Disease, One Bed Net at a Time

Exodus Film Group, Malaria.com, and the Against Malaria Foundation today announced their partnership to help rid the world of the disease with the help of Igor, the title character in Exodus' upcoming animated feature "Igor" opening nationwide on September 19 distributed by Metro-Goldwyn-Mayer. In the movie, Igor lives in the fictional land of Malaria and ends up unwittingly eradicating evil from his world and changing his life.

27 August 2008, CSR Wire

ICMM publishes Guidance on HIV/AIDS, TB and Malaria

A new publication by the International Council on Mining and Metals – Good Practice Guidance on HIV/AIDS, TB and Malaria - provides mining and metals company managers with practical information for disease management.

Africa

4 September 2008, UN News Service

Ghana: Unicef to Provide Thousands of Extra Bed Nets in Fight Against Malaria

The United Nations Children's Fund (UNICEF) has unveiled plans to spend an additional \$1.7 million for insecticide-treated bed nets in Ghana as part of the fight against the spread of malaria in the West African country.

4 September 2008, The Post

Cameroon: Relay Workers Trained to Combat Malaria

Some 120 community relay workers in Kumba health district have been trained on the signs, symptoms and treatment of malaria.

3 September 2008, New Vision

Uganda: Acute Malaria Hits Kibaale

The strange disease that has claimed seven lives in Kibaale district has been identified as acute malaria.

3 September 2008, New Vision

Uganda: Health Ministry Receives ARVs

The Ministry of Health has received the first batch of the anti-retroviral drugs (ARVs) from Quality Chemicals Industries.

2 September 2008, Angola Press Agency

Angola: Health Sector Gets Medicine to Combat Malaria

Seventy eight boxes of Coartem, new medicine designed to combat malaria, were this Tuesday officially handed over in Saurimo city, north-eastern Lunda Sul province, by the assistant national co-ordinator for malaria control, Nilton Saraiva.

31 August 2008, The Nation

Kenya: Banned Drugs Hinder War On Malaria

The success of the national malaria policy is being undermined by drug shortages, untrained health personnel and less effective medicines.

29 August 2008, Daily Guide

Ghana: Malaria Kills 30 Children In Korle-Bu

Assertions by health experts that malaria kills faster than HIV and AIDS was given real meaning when it was revealed that 30 precious young lives are lost to the disease every month at the Children's Department of the Korle-Bu Teaching Hospital in Accra.

29 August 2008, The White House

Tanzania: Kikwete, Bush Discuss Darfur, Zimbabwe [press release]

PRESIDENT BUSH: It is such an honor to welcome a man I've come to admire a lot to the Oval Office, President Kikwete of Tanzania. He comes representing a great country. He also comes representing the African Union.

29 August 2008, IPP media

Tanzania: We're at war with malaria - Kikwete

President Jakaya Kikwete has said Tanzania is fighting an all-out war against malaria, adding that the country would kick out the killer disease if effective strategies were put in place.

28 August 2008, New Vision

Uganda: Curtain Mosquito Nets Launched

The first mosquito net curtains have been launched in the country.

28 August 2008, Nigerian Tribune

Nigeria: Malaria and blindness

I wake up feeling very tired this morning. I do not feel like going to work. Actually, I have had this feeling of tiredness and lethargy for about two weeks. "It will soon go away," I tell myself. It hasn't and instead, it looks like it's a bit worse. I get ready to go to work. As a daily paid worker I have no choice, I must report for work.

28 August 2008, Business Daily

Africa: Poor funding setting back battle against malaria

Malaria has made life miserable for millions and constrained socio-economic development across Africa. Everyone is waiting eagerly for a vaccine to stem the tide of deaths and the long wait might soon be over, given the significant progress in clinical trials.

27 August 2008, Rwanda News Agency

Rwanda: Excitement As Indoor-Spraying to Control Malaria Gets Underway

Rwanda this week relaunched the indoor-insecticide spraying program to control the spread of malaria in Kigali. For Vestine Mukagasana, the spraying comes at the right time.

20 August 2008, SciDev.Net

Africa: Africa must prepare now for malaria vaccine

African countries must set money aside for malaria vaccines now, and hire business leaders to run control programmes, says Tom Egwang.

Asia

28 August 2008, Express India

India: UP seeks Centre's help to tackle rising fever cases

Following a sudden spurt in incidents of vector-borne diseases in the state and the health hazard posed by waterlogging at various places, the state government has asked the Centre to supply more of the drug malathion and rapid blood testing kits.

Americas

2 September 2008, Medical News Today

USA: MIT Zooms In On Malaria-Infected Cells - Work Could Aid In Diagnostics, Drug Testing

In work that could lead to new ways of detecting and treating malaria, MIT researchers have used two advanced microscopy techniques to show in unprecedented detail how the malaria parasite attacks red blood cells.

MalariaWorld - Knowledge for Solutions

K&S Consulting is an independent consultancy firm concerned with medical information provision, training activities, and infectious diseases consultations.

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