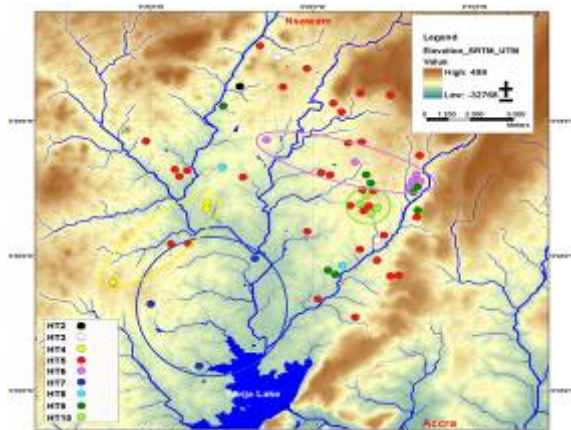


Research News – Transmission

Role of reservoirs in *M. ulcerans* transmission



doi:10.1371/journal.pntd.0000751.g004

28 July and 10 August 2010

New findings published in *PLoS Neglected Tropical Diseases* provide evidence for reservoirs of *M. ulcerans* beyond aquatic environments.

Research in Africa by Röltgen et al. shows a very focal distribution pattern of bacterial strains suggesting chronic Buruli ulcer lesions as a possible reservoir of *M. ulcerans*. [Read free article](#) | [Read press release](#) | [Read GNNTD's "Good news for Buruli"](#)

Research in Australia by Fyfe et al. suggests a transmission model for Buruli ulcer in which terrestrial mammals are implicated as reservoirs for *M. ulcerans*. [Read free article](#) | [Read TropIKA blog](#)

Terrestrial small mammals as reservoirs of *Mycobacterium ulcerans* in Benin.

Durnez, Lies; Suykerbuyk, Patrick; Nicolas, Violaine; Barrière, Patrick; Verheyen, Erik; Johnson, Christian R; Leirs, Herwig; Portaels, Françoise.

The authors of this study investigated the potential role of small terrestrial mammals as a reservoir of *M. ulcerans* by trapping and analysing rodents and insectivores (shrews) in Buruli endemic regions of Benin. Different mycobacteria were detected in 68 (12%) out of 565 trapped small mammals, but no *M. ulcerans* was found.

Applied and Environmental Microbiology Research Article, published July 2010 | PMID: 20435759 | [Read more](#)

Interaction of *Mycobacterium ulcerans* with mosquito species: implications for transmission and trophic relationships.

Wallace, John R; Gordon, Matthew C; Hartsell, Lindsey; Mosi, Lydia; Benbow, M Eric; Merritt, Richard W; Small, Pamela L C.

The study examines for the first time the maintenance of *M. ulcerans* throughout the mosquito developmental cycle. A major finding reported here is that although *M. ulcerans* is maintained throughout larval development, the infections are not carried over into the pupae or adult mosquitoes suggesting an unlikely role for mosquitoes as biological vectors. The authors conclude, however, that the ability of *M. ulcerans* for prolonged survival and passage up the food chain suggests that *M. ulcerans* infected mosquito larva may play an important role in the maintenance and distribution of *M. ulcerans* in aquatic environments.

Applied and Environmental Microbiology Research Article, published 30 July 2010 | PMID: 20675453 | [Read more](#)

Research News – Transmission (continued)

Seasonal and regional dynamics of *M. ulcerans* transmission in environmental context: deciphering the role of water bugs as hosts and vectors.

Marion, Estelle; Eyangoh, Sara; Yeramian, Edouard; Doannio, Julien; Landier, Jordi; Aubry, Jacques; Fontanet, Arnaud; Rogier, Christophe; Cassisa, Viviane; Cottin, Jane; Marot, Agnès; Eveillard, Matthieu; Kamdem, Yannick; Legras, Pierre; Deshayes, Caroline; Saint-André, Jean-Paul; Marsollier, Laurent.

Results published here provide insights into the potential role of water bugs as hosts and vectors of *M. ulcerans* in the environmental context. The authors argue that the detection of bacilli in saliva of human biting insects provides further evidence for their role in *M. ulcerans* transmission. Furthermore, they suggest that the detection of *M. ulcerans* in water bug saliva could be used as an environmental indicator of the risk of *M. ulcerans* transmission to humans.

PLoS NTD Research Article, published 6 July 2010 | DOI: 10.1371/journal.pntd.0000731 | [Read free article](#)

Family relationship, water contact and occurrence of Buruli ulcer in Benin.

Sopoh, Ghislain Emmanuel; Barogui, Yves Thierry; Johnson, Roch Christian; Dossou, Ange Dodji; Makoutodé, Michel; Anagonou, Sévérin Y; Kestens, Luc; Portaels, Françoise.

The authors provide the first report on the existence of family associations with Buruli ulcer (BU), adding evidence to the role of genetic factors for the increased susceptibility. They suggest that the various clinical lesions (nodule, plaque or edema), as well as the resistance to BU, may rely on host factors, such as the type of immune response, that depend on genetic factors. In addition, the results confirm contact of natural water sources as a risk factor.

PLoS NTD Research Article, published 13 July 2010 | DOI: 10.1371/journal.pntd.0000746 | [Read free article](#)

Research News – Diagnosis

Mycobacterium ulcerans and other mycolactone-producing mycobacteria should be considered a single species.

Pidot, Sacha J; Asiedu, Kingsley; Käser, Michael; Fyfe, Janet A M; Stinear, Timothy P

Based on phenotypic and genotypic characteristics, the authors advocate for a reclassification of all mycolactone-producing mycobacteria (MPM), including *Mycobacterium shinshuense*, *M. pseudoshottsii*, *M. marinum*, and *M. liflandii* as *M. ulcerans* and not to consider them as separate species. Renaming all MPM as *M. ulcerans* is taxonomically correct and will also highlight both the large geographic distribution and broad host range of this organism, which will assist political and financial advocacy for Buruli ulcer.

PLoS NTD Viewpoints, published 27 July 2010 | DOI: 10.1371/journal.pntd.0000663 | [Read free article](#)

Use of fine-needle aspiration for diagnosis of *Mycobacterium ulcerans* infection.

Cassisa, Viviane; Chauty, Annick; Marion, Estelle; Ardant, Marie Françoise; Eyangoh, Sara; Cottin, Jane; Aubry, Jacques; Koussemmou, Hugues; Lelièvre, Bénédicte; Férec, Séverine; Tekai, Fredj; Johnson, Christian; Marsollier, Laurent.

Results published here provide sufficient evidence for the effectiveness of fine-needle aspirates (FNA) in diagnosing of *M. ulcerans* infection. The authors conclude that FNA is a simple, fast, accurate, painless, and inexpensive method of sampling which may be used for diagnosing *M. ulcerans* infection by PCR, particularly in patients presenting early-stage non-ulcerative lesions.

Journal of Clinical Microbiology Research Article, published June 2010 | PMID: 20375229 | [Read more](#)

Research News –Treatments

Response to treatment in a prospective cohort of patients with large ulcerated lesions suspected to be Buruli Ulcer (*Mycobacterium ulcerans* disease).

Kibadi, Kapay; Boelaert, Marleen; Fraga, Alexandra G; Kayinua, Makanzu; Longatto-Filho, Adhemar; Minuku, Jean-Bedel; Mputu-Yamba, Jean-Baptiste; Muyembe-Tamfum, Jean-Jacques; Pedrosa, Jorge; Roux, Jean-Jacques; Meyers, Wayne M; Portaels, Françoise.

The authors report on a 2-year cohort study evaluating the effectiveness of the World Health Organization (WHO) recommended treatment strategy for Buruli ulcer (BU). Twelve weeks of rifampicin and streptomycin antibiotic treatment combined with surgery after four weeks of advanced clinically suspected Buruli ulcer cases showed successful treatment rates. However, the authors also conclude that clinical diagnosis of ulcerated forms of BU may be more difficult than is usually recognized and that the best time for surgery needs clarification.

PLoS NTD Research Article, published 6 July 2010 | doi:10.1371/journal.pntd.0000736 | [Read free article](#)

Rapid assessment of antibacterial activity against *Mycobacterium ulcerans* by using recombinant luminescent strains.

Zhang, Tianyu; Bishai, William R; Grosset, Jacques H; Nuermberger, Eric L.

The authors demonstrate the feasibility of engineering recombinant bioluminescent *M. ulcerans* strains and the utility of such strains for the rapid evaluation of antimycobacterial drug effects *in vitro*, thus greatly facilitating the development of new drugs against the slow growing *M. ulcerans* bacteria. Furthermore, findings indicate that drug efflux may explain at least part of intrinsic resistance of *M. ulcerans* to tetracycline and erythromycin, suggesting efflux mechanisms as a new target in drug development.

Antimicrobial Agents and Chemotherapy Research Article, published July 2010 | PMID: 20421401 | [Read more](#)

Pharmacokinetics of rifampicin and clarithromycin in patients treated for *Mycobacterium ulcerans* infection.

Affenaar, J Wc; Nienhuis, W A; de Velde, F; Zuur, A T; Wessels, A Ma; Almeida, D; Grosset, J; Adjei, O; Uges, D Ra; van der Werf, T S.

The present study investigated the interaction between rifampicin and clarithromycin in patients infected with *M. ulcerans* as part of a prospective randomized trial comparing two drug regimens. The major concern in the case of these drug-drug interactions is that the resulting antibiotic exposure is not efficacious due to the altered plasma concentrations. The authors suggest that in further clinical studies, the clarithromycin dose should be doubled and administered twice daily instead of once.

Antimicrobial Agents and Chemotherapy Research Article, published 28 June 2010 | PMID: 20585115 | [Read more](#)

Clinical efficacy of combination rifampicin and streptomycin for treatment of *M. ulcerans* disease.

Sarfo, Fred Stephen; Phillips, Richard; Asiedu, Kingsley; Ampadu, Edwin; Bobi, Nana; Adentwe, E; Lartey, Awuli; Tetteh, Ishmael; Wansbrough-Jones, M.

The authors of this study report 95% clinical efficacy of World Health Organization (WHO) recommended eight weeks of rifampicin and streptomycin (SR8) combination therapy, without recourse to surgery, in different forms of PCR-confirmed Buruli ulcer (BU) cases. The authors conclude that these results confirm the efficacy of SR8 delivered in a community setting.

Antimicrobial Agents and Chemotherapy Research Article, published 21 June 2010 | PMID: 20566765 | [Read more](#)

Research News –Treatments (continued)

Severe multifocal form of Buruli ulcer after streptomycin and rifampin treatment: comments on possible dissemination mechanisms.

Sopoh, Ghislain Emmanuel; Dossou, Ange Dodji; Brun, Luc Valère; Barogui, Yves Thierry; Houézo, Jean Gabin; Affolabi, Dissou; Anagonou, Séverin Y; Johnson, Roch Christian; Kestens, Luc; Portaels, Françoise.

The case report of a 6-year-old HIV-negative boy with severe multifocal Buruli Ulcer and osteomyelitis emphasizes the difficulties encountered with combination of antibiotic treatment and surgery for multifocal forms. The authors discuss different risk factors for dissemination.

American Journal of Tropical Medicine and Hygiene Case Report, published August 2010 | PMID: 20682873 | [Read more](#)

Evaluation of the medicinal use of clay minerals as antibacterial agents.

Williams, Lynda B; Haydel, Shelley E.

This study presents results from microbiological testing against different bacterial strains of two French green clays used as therapeutic treatment of advanced Buruli ulcer disease and analyses mineralogical and chemical compositions of the antibacterial clays.

International Geology Review Research Article, published 1 July 2010 | PMID: 20640226 | [Read more](#)

Research News – Sociocultural aspects

No new articles available

Stop Buruli News

Benin – new team member in the Stop Buruli consortium

July 2010 | Cotonou

Dr Ghislain Sopoh is a new scientific consortium member for Benin in the Stop Buruli Initiative. Dr. Sopoh is currently the director of the 90-bed Buruli hospital located in Allada. Dr Sopoh follows Dr. Christian Johnson, former Coordinator of the National Leprosy and Buruli Ulcer Control Programme in Benin, who has joined Raoul Follerau Foundation as Medical Consultant. Dr. Johnson will continue providing his advice to the Stop Buruli Consortium as external consultant. [Read more](#)



Other Research News – Reviews, case studies, ...

Continued Medical Education on Buruli ulcer in Brazil

Boleria, Manuela; Lupi, Omar; Lehman, Linda; Asiedu, Kingsley Bampoe; Kiszewski, Ana Elisa

This article published in the Brazilian medical journal *Anais Brasileiros de Dermatologia* gives an overview over the current state-of-the-art of diagnosis and management of Buruli Ulcer with the aim to inform physicians in Brazil about the disease, following the recent description of the first autochthonous cases of infection in this country.

An Bras Dermatol. Review, published June 2010 | PMID: 20676462 | [Read free article](#)

Other Research News – Reviews, case studies, ... (continued)

Recent advances in leprosy and Buruli ulcer (*Mycobacterium ulcerans* infection).

Walsh, Douglas S; Portaels, Françoise; Meyers, Wayne M

The authors provide a comprehensive and updated overview of recent advances in epidemiology, pathogenesis, diagnosis, treatment and prevention for leprosy and Buruli ulcer, the two most common mycobacterial infections in humans.

Current Opinion in Infectious Diseases Review, published 24 June 2010 | PMID: 20581668 | [Read more](#)

Painful Buruli ulcer in a Malian visitor to France.

Ezzedine, Khaled; Pistone, Thierry; Guir, Véronique; Malvy, Denis

A Buruli ulcer case of a 44-year-old Malian man who visited France is reported. The patient came from the Sahelian region where there is less evidence for favourable environmental factors for the pathogen.

Acta Dermato-Venereologica Letter to the Editor, published July 2010 | PMID: 20574617 | [Read more](#)

Neglected tropical diseases outside the tropics.

Norman, Francesca F; Pérez de Ayala, Ana; Pérez-Molina, José-Antonio; Monge-Maillo, Begoña; Zamarrón, Pilar; López-Vélez, Rogelio

The authors report the experience of a Tropical Medicine Unit in Madrid, Spain, over a 19-year period, as to the neglected tropical diseases (NTDs) diagnosed among immigrants, travelers and visiting friends and relatives, calling attention to the emerging phenomenon of imported NTDs. No Buruli ulcer was reported.

PLoS NTD Research Article, published 27 July 2010 | DOI: 10.1371/journal.pntd.0000762 | [Read free article](#)

World laments loss of pathology service.

Gary Humphreys and Alice Ghent report that the closure of one of the world's most important pathology resources leaves doctors in many developing countries in a void. Kingsley Asiedu comments on the impact for Buruli ulcer.

Bulletin of World Health Organization, Aug 2010 | DOI: 10.1590/S0042-96862010000800004 | [Read free article](#)

Other News – Partnerships

Telormedix and Swiss TPH Institute sign malaria and Buruli ulcer collaboration

3 August 2010 | Bioggio

Telormedix, a biopharmaceutical company using targeted immunity to treat cancer and other diseases, announced a clinical collaboration with Swiss Tropical and Public Health Institute (Swiss TPH) on a pilot study testing Telormedix's adjuvant, TMX-201, in immunization for malaria and Buruli ulcer. [Read more](#)

MMV makes its IP freely available for neglected diseases research

16 August 2010 | Geneva

Medicines for Malaria Venture (MMV) became the first product development partnership (PDP) to contribute intellectual property to the Pool for Open Innovation Against Neglected Tropical Diseases, which was established by GSK in 2009 and now includes MIT, Alnylam Pharmaceuticals, and the South African government. The diseases targeted by the pool comprise 16 diseases, including Buruli ulcer. [Read more](#)

Other News – Funding

EFINTD awards 850,000 Euros for medical research on neglected tropical diseases in Africa

26 July 2010 | Hannover

As a joint program of five European foundations, the **European Foundation Initiative for African Research into Neglected Tropical Diseases (EFINTD)** has opened a second round of funding for African scientists conducting research on neglected diseases, including Buruli Ulcer. [Read more](#)

Up-To-Date PubMed References on Buruli ulcer

See [up-to-date PubMed citations](#) referencing the terms "mycobacterium ulcerans" or Buruli".

How to Access Articles Referenced in This List? HINARI

In the Buruli Beat news digest, links to the articles on journal websites are provided by clicking on the blue highlighted, underlined text. In cases where articles have been made freely available through open-access publishers like PLoS, click on 'read free article'. However, many articles still require a paid subscription service to see the full article rather than just the abstract.

For researchers in developing countries, the HINARI Programme set up by WHO together with major publishers, enables developing countries to gain access to more than 7,000 journal titles which are now available. Go to the [HINARI web page](#) to learn about how to subscribe.

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