

Malaria transmission work at LSHTM A tale of perseverance

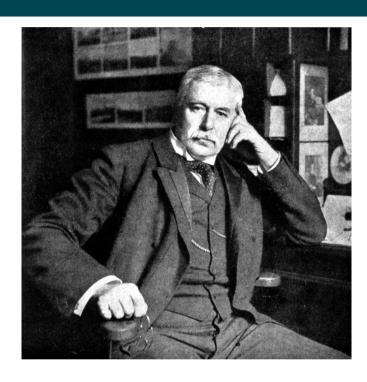
Mojca Kristan, Michael Delves, Christiaan van Ooij

Crick & Partners Malaria Symposium 3rd September 2019



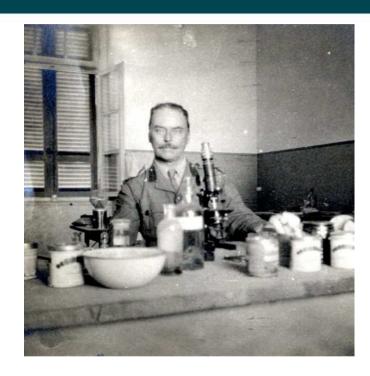
Once upon a time...





Patrick Manson





Ronald Ross



Recent history...





1990s

Field work in The Gambia and Tanzania

(Drakeley & Targett)







2006-2007

Small project with a little bit of success

(Sutherland & Andolina)







2012-2016

Field work in Uganda (Kristan)





2018 onwards

P. falciparum transmission(van Ooij & Delves & Kristan & Sutherland)





Gates Malaria Partnership – revival attempt

(Targett & Kristan)

2001-2006





Longer project with limited success

(the Logan group)

2013-2016





Plasmodium ovale project (Oguike & Sutherland & Kristan)



2016-2017



2018 onwards – the four musketeers



The right people join forces and magic happens...



If only it was that easy...

It's lots of hard work...

...but it seems it has worked!





Present



Ten feeds between September 2018 and July 2019

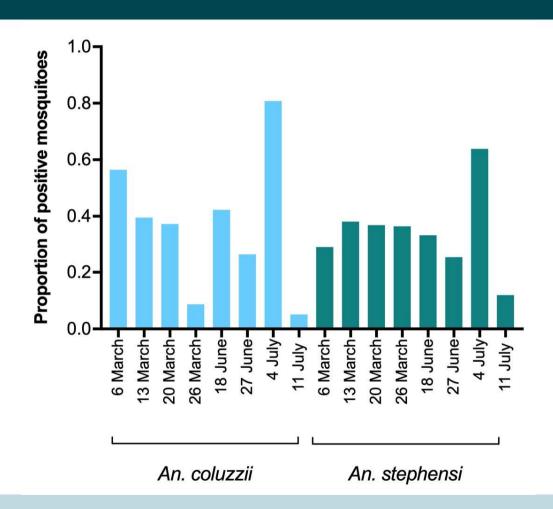
- ► P. falciparum NF54
- ► An. coluzzii (N'gousso strain)
- ► An. stephensi (SK strain)

- ➤ Exflagellation detected (10/10)
- ➤ Oocysts detected (9/10)
- ➤ Sporozoites detected (2/2)



Oocyst prevalence

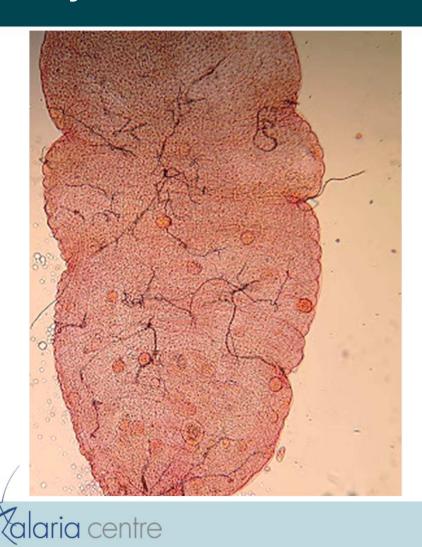


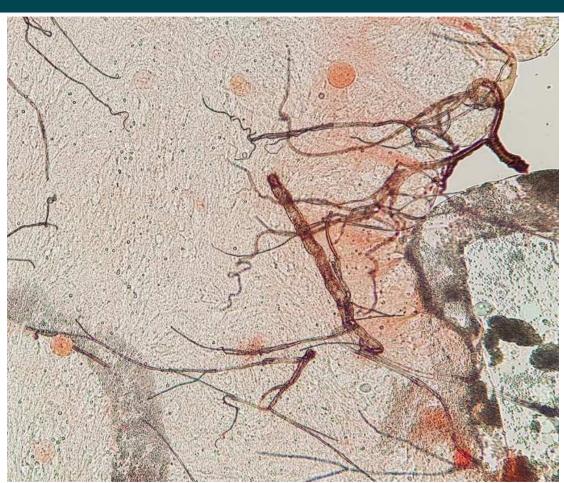




Oocysts

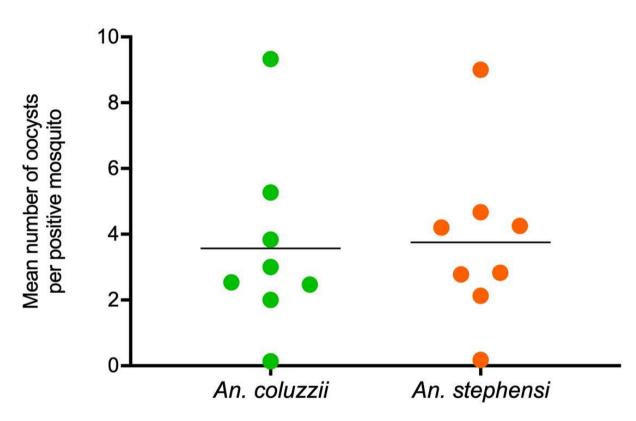






Oocyst intensity

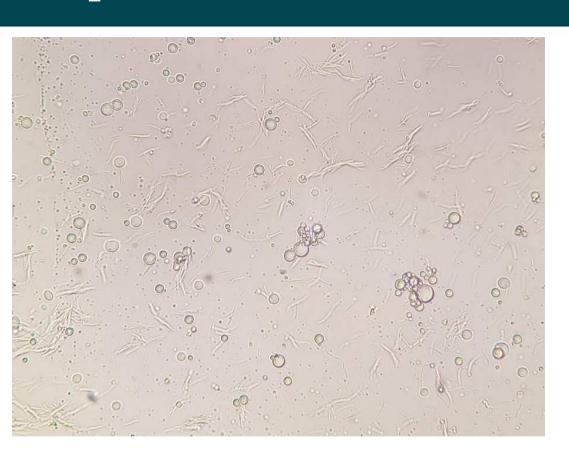


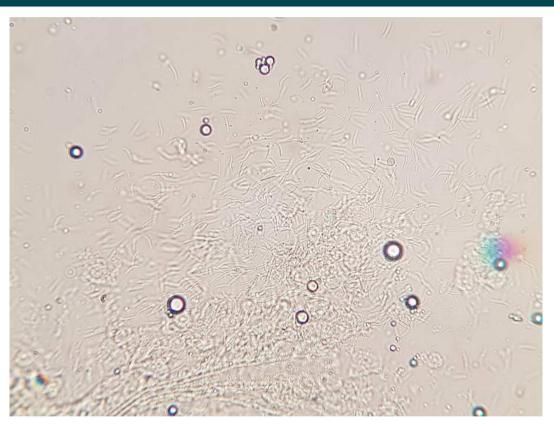




Sporozoites











Next steps...



- Further testing and improvements of the system in progress
- A number of research questions can be addressed:
 - Infection with different parasite strains and patient isolates
 - Infection of different mosquito strains
 - Compound assays to test for transmission blocking
 - •
 - Let us know?



Future considerations



How inter-institutional/interdisciplinary collaboration could contribute to further success of our research?

- Provision of service to LSHTM and external users
- Funding and cost recovery (staff costs, reagents/consumables)
 - Written into grants → collaboration
 - Service → charges agreed on case by case basis
- We're open for business come talk to us!



Work with us



Contact us by email:

Mojca: <u>Mojca.Kristan@lshtm.ac.uk</u>

• Michael: Michael.Delves@lshtm.ac.uk

• Christiaan: Christiaan.vanOoij@lshtm.ac.uk



Acknowledgements



To all those doing malaria transmission work – at LSHTM and elsewhere - who keep going and refuse to give up...

