



Target Malaria: Ghana

Who we are?

Target Malaria is a not-for-profit research consortium that aims to develop and share new technologies for malaria control. The University of Ghana, Legon is a collaborating partner.

Our work

Target Malaria’s vision is to contribute to a world free of malaria.

Our approach is malaria control by mosquito control. By reducing the population of malaria mosquitoes, we aim to reduce the transmission of the disease.

We aim to develop a technology that can be complementary to other mosquito control methods and which offers a solution that is long term, cost-effective and sustainable.

Target Malaria includes institutions in Europe, North America and Africa. The project is currently working in four African countries:

- Ghana: University of Ghana
- Burkina Faso: Institut de Recherche en Sciences de la Santé (IRSS)
- Mali: Malaria Research and Training Center (MRTC)
- Uganda: Uganda Virus Research Institute (UVRI)
- Researchers in the UK, US and Italy are also involved

Context

Malaria places a heavy burden on Ghana’s public health system and economy. 100% of Ghana’s population is at risk of becoming infected. (WHO, World Malaria Report, 2019)



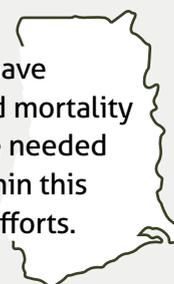
In 2019 the WHO recorded **over 12 million** reported cases of malaria in Ghana

According to the WHO, the number of deaths in Ghana for 2019 was 336.

This shows that the number of deaths has been consistently reducing over the last three years; 428 recorded in 2018 and 599 in 2017.

24.8% hospital admissions in 2019 were due to malaria.

Current efforts to tackle malaria have reduced deaths but morbidity and mortality remains high. Additional tools are needed and Target Malaria is working within this context to complement existing efforts.



Our activities in Ghana



Insectary & laboratory

A specialised Arthropod Containment Level 2 (ACL-2) insectary is being built at the University of Ghana, Legon. Once ready it will be used to investigate optimal rearing conditions that enhance male mosquito fitness.



Stakeholder Engagement

- Inform and engage stakeholders around the insectary, in the two project communities, at the district, regional and national levels about the project activities to ensure transparency and acceptance.
- Feedback to stakeholders about project progress and activities taking into account their views, opinions and concerns.
- Assuring stakeholders that their concerns are taken into consideration.



Ecology

This study aims at better understanding the ecological role of *An. gambiae* in their community. This is done via:

- Identification and characterisation of niches as well as the interactions within the niches.
- Unravelling of the role of *Anopheles gambiae* in food webs and the provision of ecological services.
- Investigating whether mosquitoes pollinate plants and which kinds of plants they pollinate.
- Using the data produced from above to predict what could happen to other life forms if malaria mosquito populations were significantly reduced.



Entomology

This study aims to develop protocols for rearing, transporting and releasing male mosquitoes. This is done via the:

- Development of larval rearing conditions that maximise the survival of mass-produced *Anopheles gambiae* males.
- Testing rearing protocols that boost male mating competitiveness and mate choosiness.
- Improvement of methods for packaging, transporting and releasing of mass-produced males to minimise negative effects on male survival and mating competitiveness.

Our priorities

Ghana is undertaking extensive studies on *Anopheles gambiae* mosquito behaviour and ecology in order to determine possible ecological effects of reducing or eliminating *Anopheles gambiae* as well as optimising male mosquito rearing protocols to make them fit to compete in the wild.

- Complete construction of new ACL-2 insectary.
- Conduct baseline studies in field sites and laboratory to better understand mosquito populations, dynamics and behaviour.

- Optimise rearing protocols for male mosquito fitness.
- Improve understanding of the ecology of *Anopheles gambiae* and the species' role in the ecosystem.
- Create awareness about malaria and the project.
- Engage stakeholders at the community, district, regional and national level in Ghana.

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