

Field Trip May 15-28, 2010

Participants: Asrat Hailu, Alon Warburg, Teshome Gebre-Michael, Meshesha Balkew, Charles Jaffe, Aysheshm Kassahun, Roy Faiman, Adi Moncaz, Wossenseged Lemma, Shewaye, Jan Votypka, Vit Dvorak, Amit Huppert, Ronen Olinkey.

Itinerary:

1. Two days travel by 4X4 vehicles to Humera
2. Four nights' work in Humera region
3. One day in Gondar (election day)
4. One night work in Metema
5. One night's work in Addis Zemen
6. Two days in Addis Ababa, final discussions, exchange of reagents etc

Main achievements:

Optimization of light traps:

Experiments were conducted to test traps operated on 2 AA batteries instead of heavy 6V batteries. Different colored chemical light sticks were used as attractants. Results were satisfactory making it feasible to utilize such traps on a large scale. The main advantage of these light-weight traps is that one operator can carry and deploy 40-50 traps in 1-2 hours. Moreover, recharging the batteries requires small, light-weight, inexpensive chargers that can be found in many stores.



Testing emergence traps: Several types of emergence traps were tested. The most suitable design was found to be a mesh tent covering a sticky surface or plastic mesh. Several putative breeding sites in three different field sites were investigated. Preliminary results indicate that sand flies are not found in cracks in the soil of fallow sesame fields.



Fallow Sesame field near Humera. Deep cracks open up during the dry season in these heavy vertisols.



Emergence traps comprised a sticky surface (plastic fencing or solid surface smeared with sesame oil) covered with a sand fly proof tulle cloth. Some sand flies were caught emerging from cracks near *Balanites* trees



Sand flies were caught emerging from cracks and holes in termite mounds in shady areas



Larger numbers of sand flies were caught emerging from cracks and holes in a dried seasonal riverbed in Addis Zemen.



In most villages assistants recruited themselves and in some cases the team was left almost jobless



A coffee ceremony during a rain storm in Metema

Collection of sand flies for colonization:

Sand flies were collected to establish colonies of *Phlebotomus orientalis* from different localities. Colonized flies will be used for extracting salivary gland in order to establish anti-saliva ELISA assays to determine levels of exposure to biting vectors. In addition, a Xenodiagnostic procedure will be developed to determine infectivity of different human as well as animal reservoir hosts to sand flies.



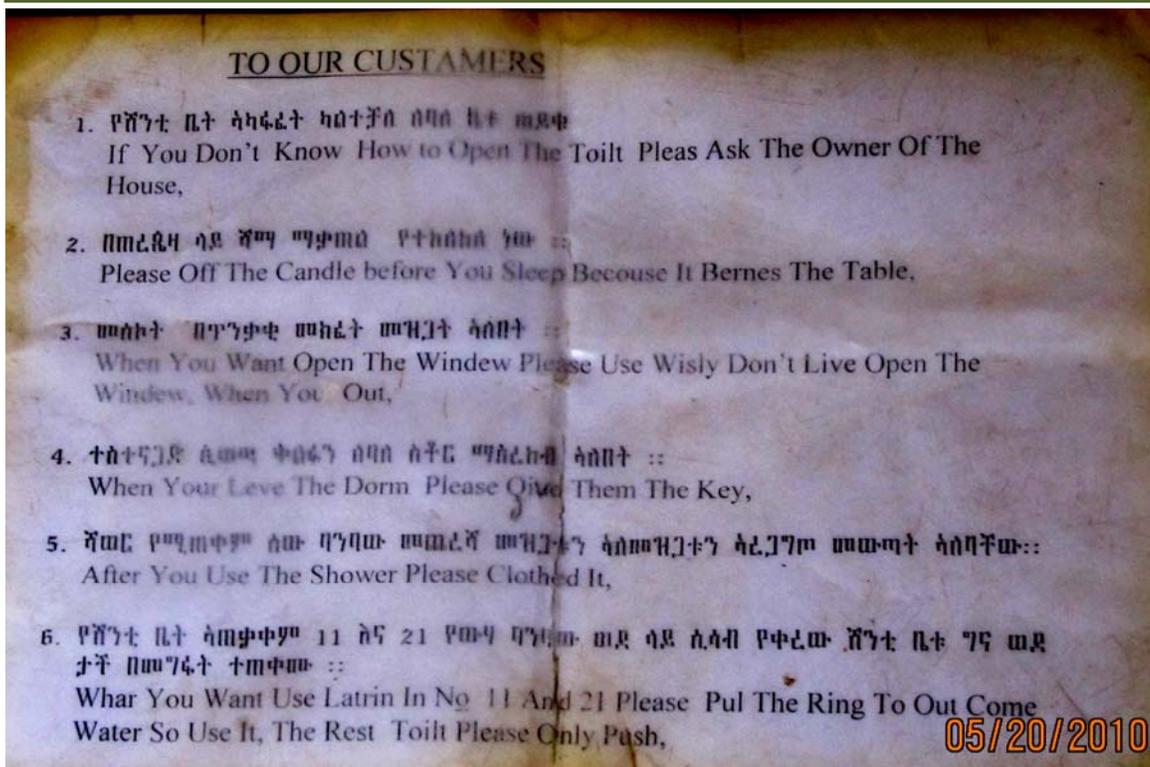
Transferring sand flies from traps to breeding cages (left to right: Roy, Charle, Wossen, Jan, Vit & Asrat)



Bloody Mary was recruited for a few days to supply the needs of the sand fly females



Temperatures in Humera reached 45°C during the day but after nightfall, in our friendly Hotel Simien, we were kept nice and comfy at a mere 39°. Clear instructions were provided for clarification.





Cooling off at the Gihon Hotel Gondar (left to right: Shwaye, Ayshseshm, Vit, Jan & Amit)



Shwaye presented the guests with local insignia (left to right: Roy, Charle, Alon, Shwaye, Adi, Jan & Vit)

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LEISHMANIASIS RESEARCH & TREATMENT CENTER
 Gondar University Hospital

In collaboration with
 Drugs for Neglected Diseases *initiative* (DNDi), Switzerland
 May 2008

Kala Azar Patients at
 the Gondar
 University Hospital
 Leishmaniasis
 Research and
 Treatment Center





En Route to Humera

The New Bridge over
the Blue Nile (Addis
Ababa-Gondar road)

A road stop in the
lowlands



Back in Addis

Summary discussions Gihon Addis Ababa May 27, 2010

1. Initial studies to be concentrated in Humera and Sheraro (Tigray).
2. Field centers will be established in both locations including fully functional labs, residential areas, cooking facilities and vehicles. Centers will be permanently staffed by scientific/logistical assistants, house keeper, drivers.
3. Establishment of cohort studies in Sheraro as soon as ethical clearance is obtained
4. Entomological studies in Humera and Sheraro during harvest period (October November 2010)
5. Several *L. donovani* strains for Charle to initiate DNA microarray studies and validate protocols for drug sensitivities (axenic amastigote cultures if possible and relevant, macrophage cell lines?). More to follow ethical clearance pending.
6. Wossen to continue entomological studies in Libo Kem Kem and initiate entomological population dynamics studies in Humera as soon as sufficient traps are available and logistical arrangements permit.
7. Aysheshm, Jan, Vit to coordinate activities for collecting *P. orientalis* in different parts of the country . Obtain samples from Kenya and Sudan for reference
8. Gad + Carla with Wossen to sample domestic animals for serology and parasite isolation in Libo (date to be coordinated) – to supplement DAT survey indicating sero-positive cattle, dogs (sheep?) conducted by Asrat and Wossen.
9. Establishment of cohort amongst migrant laborers in Humera after some more data becomes available on possible seasonality and dynamics of transmission
10. Data collection and management to be discussed further by Amit and Asrat (May 29-30). To emphasize real-time communication via internet-based database in AAU, Gertner institute and HUJI.

11. Scientific kickoff meeting in Mekele November 20-24 . Tigray ministry of health officials to be invited to the meeting. Consider inviting federal official. Following the meeting visit to Axum on the way to field trip and 10 day work in Sheraro and Humra. Some consultants will be invited to attend meeting and join the field work.
12. Teshome provided starter colonies of *P. orientalis* form several locations. These will be used to establish colonies in Prague addition to the wild-collected flies.



Discussions in Addis prior to field trip (Roy – Teshome - Alon)

Traditional Injera meals were very tasty but, toward the end of the trip some of us were ready for a change.



Potato vendor at the Merkato in Addis. The largest open air market in Africa





July 11/2006

To Dear Customers

*You are required to pay an additional fee
One Birr here for special interance to
the lions eage to take pictures and visit to
the proximity!*

The lions zoo

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Lions Zoo in Addis