Overseas Practice on（Field Epidemiology・Collaborative Research） 2018/08/27

report form（For Student） (Year/Month/Day)

Name	Alex Samuel Kiarie Gaithuma
Laboratory	Division of Collaboration and Education (CZC)
Year (Grade)	D3
Place of practice	Zambia
Period of practice	25th July 2018 to 16th August 2018
Purpose	Field epidemiology (surveillance of Trypanosomiasis in tsetse flies)

Summary of activities（about 800 words, provide photos, tables and figures that clearly show the activities during the period

Activities carried out in my field Epidemiology in Zambia

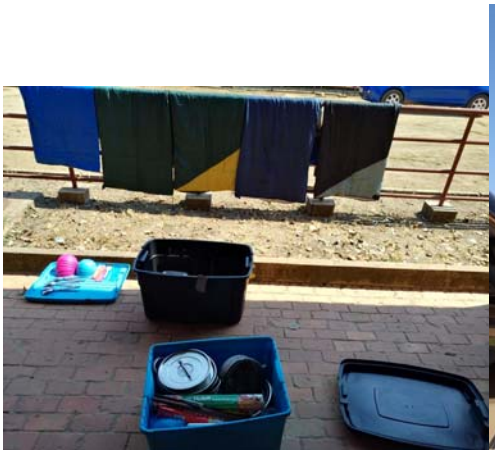
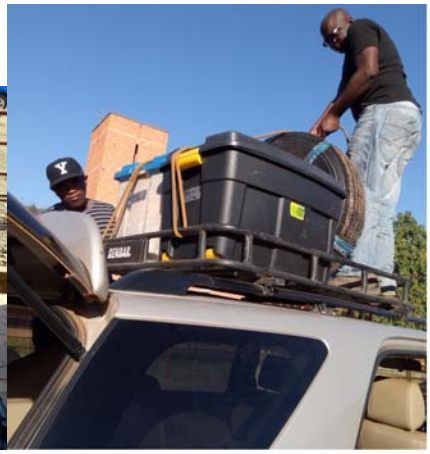
1. Preparation for field work

Before setting out to the field for collection of flies, I learnt how to prepare for the fieldwork which involved;

a) *Preparation of tsetse fly traps* – We prepared sticky traps using plastic boards, thick glue and baking paper which is an activity that cannot be done in the field. Another new trap (mobile Sugimoto trap) is a new concept in Tsetse fly collection and therefore it was important to train local researchers and government personnel on how to use this trap.




b) *Preparation of fieldwork PPE, camping and other materials* – This involved packing sleeping bags, tents, cooking items etc. as well as protective material such as gloves and tsetse fly collection nets.

2. <u>Fieldwork</u>

a) Collection of flies

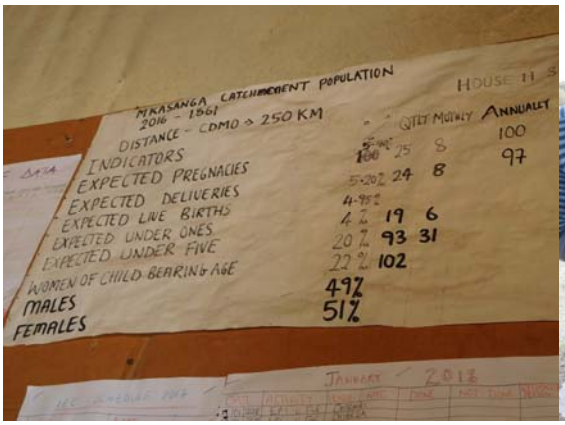
We collected tsetse flies from South Luangwa National park and the surrounding villages as well as along the park roads using the sticky and mobile traps. We also collected flies from Kafue National park especially near the Lodges and park roads. We also visited an old sleeping sickness foci inside Kafue National park and collected more flies. It total we covered over 700 Km collecting over 1000 flies in two weeks.



LUANGWA RIVER

b) Visiting local health centers

We visited health centers between the villages in south Luangwa National park. This was done so as to collect information on Trypanosomiasis cases and check their diagnostic capabilities and awareness.



c) Tsetse fly sample handling and processing

Tsetse flies caught were handled with care so as not to contaminate them with either environmental contaminants or human-derived contaminants. We preserved the flies in individual tubes and collection bags. Each tube was labelled according to collection points. Later in the laboratory, flies were sorted by sex and species and counted. Since we cannot export tsetse flies to Japan, we extracted DNA from individual flies caught using the Chelex method. This method is field friendly since it involves crushing the fly, adding Chelex beads suspended in Tween20 buffer then boiling the sample. The suspension is span using a centrifuge and the supernatant collected as DNA extract. This is simple and easy to undertake for many samples. We processed more than 1000 tsetse fly samples individually and carried the DNA extracts back to Japan for further analysis.

（海外実践疫学演習・海外共同研究演習）報告書　　年　月　日提出

氏名	
所属	
学年	
出張先	
出張期間	
目的	

（Field Epidemiology・Collaborative Research）Evaluation by supervisor

Institution・Official title・Name	印
Describe overall evaluation on the applicant's activity in overseas practice.	

※1　The Steering Committee of the Leading Program will first confirm the content of this report and the report will be forwarded to the Educational Affairs Committee for credits evaluation.

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活動内容（2,000 字程度、活動内容が判る様な写真や図表を加えて下さい）

（海外実践疫学演習・海外共同研究演習）指導教員評

指導教員所属・職・氏名	人獣共通感染症リサーチセンター 国際協力・教育部門 准教授　山岸潤也　印
実施内容について講評を記述して下さい アレックスガイツマさんは、約３週間にわたり、ザンビアでのアフリカ睡眠病（Human African Trypanosomiasis）の疫学調査に従事し、ザンビア辺縁部でのツエツエバエのサンプリング、DNA 抽出処理、地域保健所でのインタビューを行いました。これらの成果は、彼の研究（次世代シーケンサーを用いた Trypanosoma 原虫の新規検出・解析方法の開発）のみならず、本部門のこれからの研究の発展にも寄与するものであったと評価しています。	

※1　本報告書はリーディングプログラム運営委員会で内容を確認します。その後、教務委員会で単位認定を受けることになります。

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内線：9545　e-mail: leading@vetmed.hokudai.ac.jp