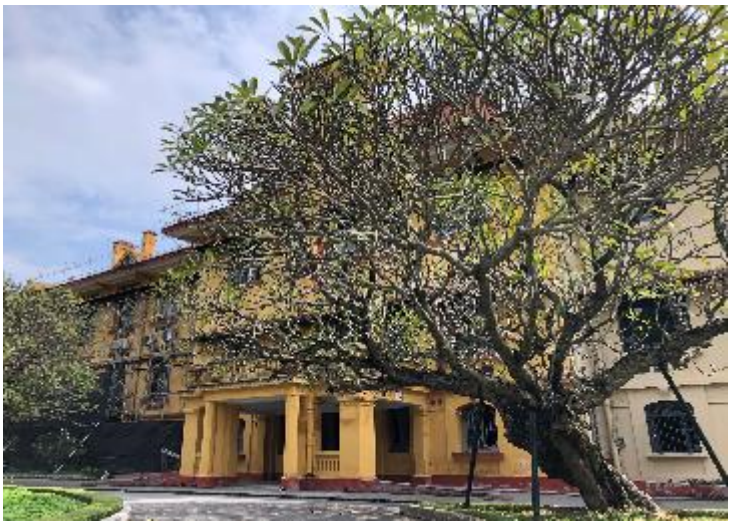
（Abroad・~~Domestic~~）Internship report form（Student）　　2018/11/19 (Year/Month/Day)

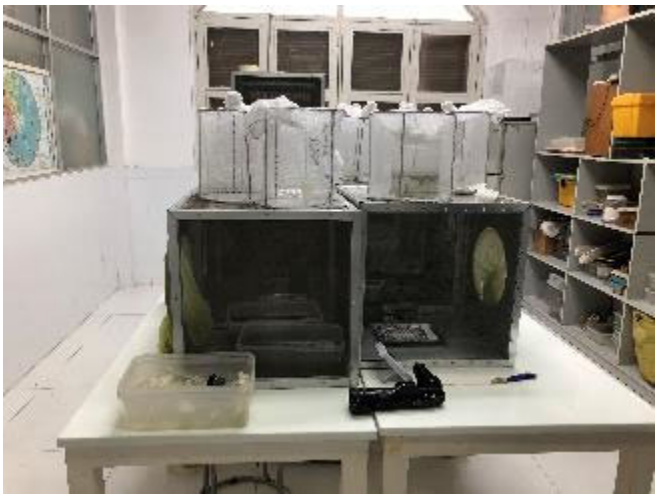
Name	Bongkot Soonthornsata
Laboratory	Unit of Risk Analysis and Management, CZC
Year (Grade)	D4
Internship institution	Vietnam Research Station, Institute of Tropical Medicine, Nagasaki University National Institute of Hygiene and Epidemiology, Hanoi, Vietnam
Internship period	Internship period: 10/22/2018 - 11/09/2018 (Departure Date from Sapporo: 10/21/2018, Arrival Date in Sapporo: 11/11/2018)
Purpose	• Participate in entomological surveys in Hanoi and Ho Chi Minh • Obtain the knowledge relating to mosquito-borne-disease control from officials of the WHO and Government of Vietnam

I chose Vietnam Research Station, Institute of Tropical Medicine, Nagasaki University because they have been established their research collaboration with the National Institute of Hygiene and Epidemiology (NIHE) in Vietnam for over a decade. NIHE is under the Ministry of Health in Vietnam, oversees the prevention and control of epidemic and common diseases, providing the minister of health measures and strategies for the prevention, control, and elimination of epidemic and common diseases. Therefore, it was absolutely a good opportunity for me to learn how the Government of Vietnam set up the control measure for mosquito-borne disease as a national plan. During the visit to NIHE in Hanoi and Institute of Pasteur in Ho Chi Minh City, I participated in a total of eight dengue vector surveys including other relevant activities as described below.



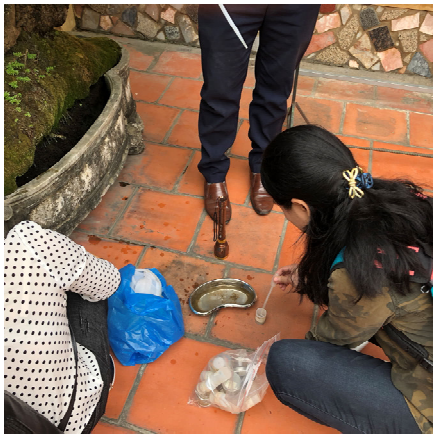
National Institute of Hygiene and Epidemiology (NIHE), Hanoi, Vietnam

- October 22nd, 2018 arrived in NIHE and met with the Head of the Vietnam Research Station, Professor Futoshi Hasebe. Then I was introduced to all staff including my supervisor Dr Takashi Tsunoda. After that visited entomology laboratory facilities and insectary and observed the activities. Then discussed plan for mosquito surveys between 23-25, 29-31 October, and 5-7 November 2018.

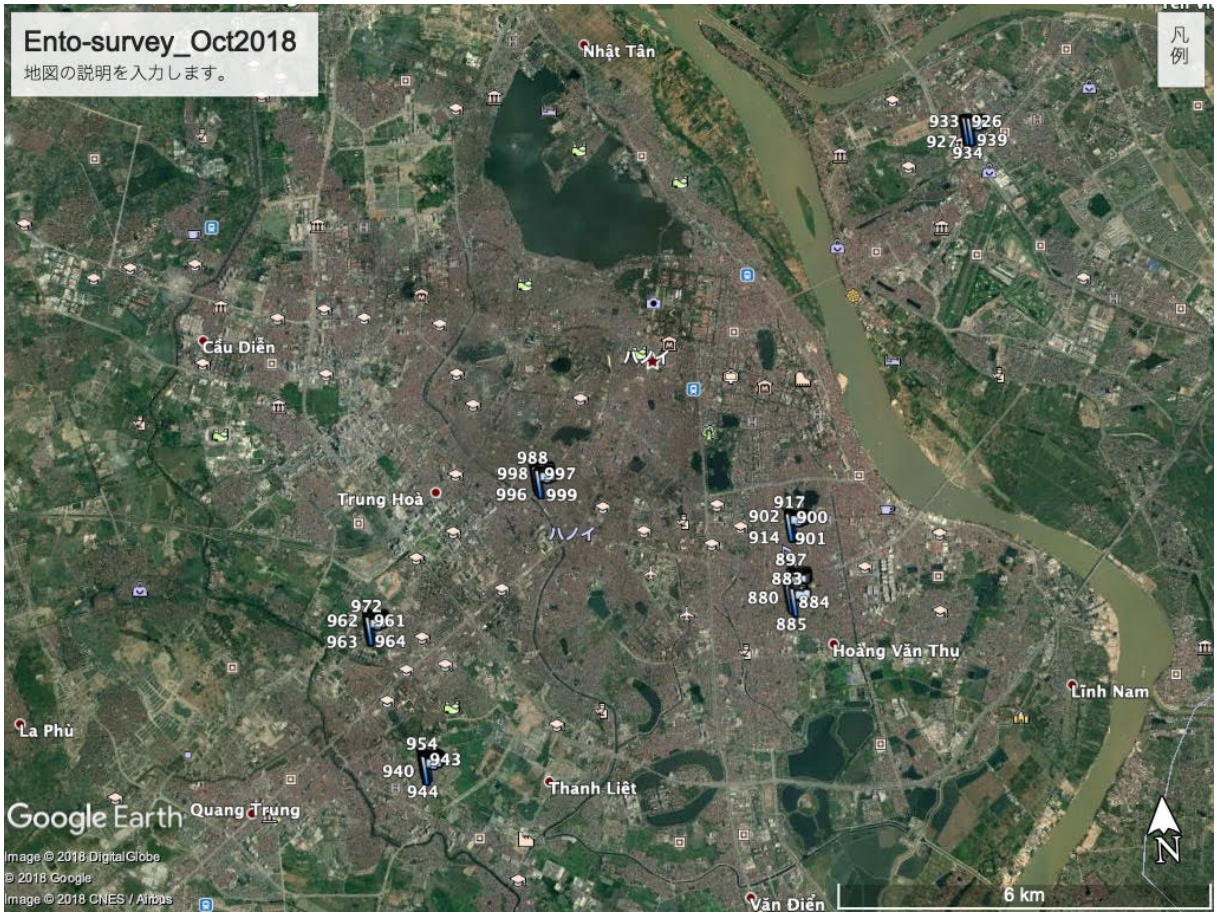
Entomology laboratory facilities

October 23rd -26th, 2018 participated in dengue larval surveys carried out in Hai Ba Trung district, Hoang Mai district, and Long Bien district. The surveys aimed to identify larval habitats and dengue vector species distributed in the areas. Each survey consisted of two teams, each team consisted of 1 staff from NIHE, 2 staff from Provincial Office, 2 staff from District Health Office, and 1 local guide. A total of 20 households were aimed for each team (total 40 households). Larvae collected from the surveys were brought to the laboratory for rearing and later were identified *Aedes* mosquito species. Currently, we could identify mosquito species as follow, Hai Ba Trung 574 *Ae. aegypti* and 61 *Ae. albopictus*, Hoang Mai 49 *Ae. aegypti* and 167 *Ae. albopictus*, Long Bien 1 *Ae. aegypti* and 390 *Ae. albopictus*.



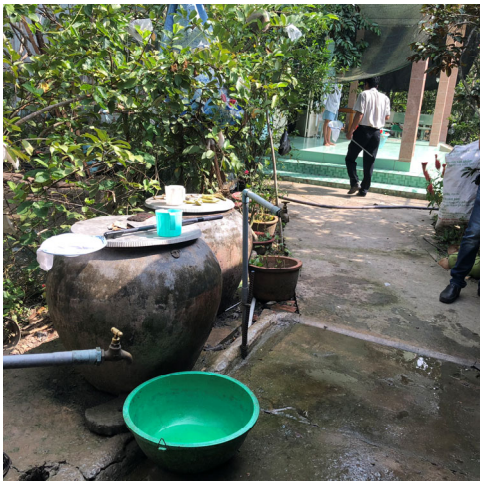
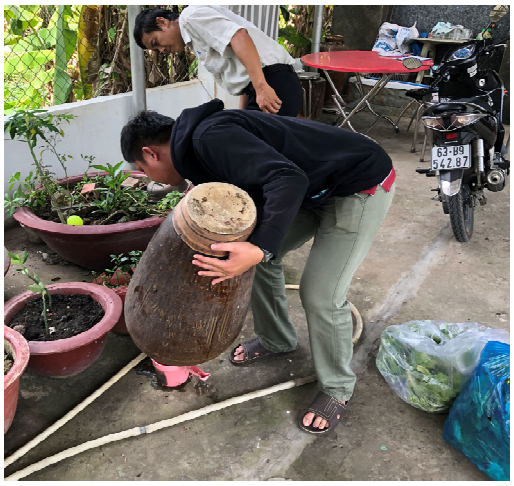
Larval survey team (left) and sampling collection (right)

- October 26th, 2018 visited WHO Western Pacific region office to meet Dr. Tran Cong Dai, Malaria Technical Officer. He is also an expert in other vector-borne diseases. He has given an insight into what was happening in the history of dengue transmission in Vietnam, specifically during the outbreaks including interventions implemented at the time.
- October 29th- November 2nd, 2018 continued participating in dengue larval surveys carried out in Thanh Tri district, Dong Da district, and Tu Liem district. Currently, we could identify mosquito species as follow, 66 *Ae. aegypti* and 208 *Ae. albopictus*, 31 *Ae. aegypti* and 51 *Ae. albopictus*, and 30 *Ae. aegypti* and 69 *Ae. albopictus*, respectively. During this second week, we discussed with Dr Tran Vu Phong, Head of Medical Entomology and Zoology Department and Dr Vu Trong Duoc, Office of National Dengue Control and Prevention in North, NIHE. They kindly explained the situation of dengue infection and the strategies for control and prevent dengue in Northern Vietnam especially the 2017 outbreak.



Map showing sampling and survey localities in and around Hanoi city (879-899 Hoang Mai district, 900-918 Hai Ba Trung district, 919-939 Long Bien district, 940-960 Thanh Xuan district, 961-981 Tu Liem district, 982-999 Dong Da district)

- November 5th- November 9th, 2018 participated in dengue larval surveys carried out in Tieng Giang district and Dong Nai district, located outside Ho Chi Minh City. We worked with Ms. Huynh Trang and her team, from Department of Medical Entomology and Zoonosis, Ho Chi Minh Pasteur Institute including local staff. Currently, we could identify mosquito species as follow, Tieng Giang 415 *Ae. aegypti* and 393 *Ae. albopictus*, and Dong Nai 91 *Ae. aegypti* and 15 *Ae. albopictus*.

Larval habitats in the survey areas

The positive impact of the activity to my career path is that the work experience through this internship provides me different perspective of entomological surveys in country where two different geographic areas exist. Although I have been involved in field works in other countries in Asia, I would say Northern Vietnam is quite different in term of mosquito vector breeding sites as well as their habitats compare to what I have experienced. Southern Vietnam seems to have similar issues as in Thailand and other countries where abandoned land and containers are breeding sites for mosquito vectors and absolutely challenging to reduce/eliminate such breeding habitats. Thus, in order to suppress the transmission, appropriate interventions are required. Dengue vector control interventions implemented are similar to other countries except in Northern Vietnam where breeding habitat is slightly different e.g. Bonsai pots with trays. In conclusion, after this internship, I am more competent in an implementation of entomological survey/surveillance system and in development of a project proposal to get funding.

Advice for your junior fellows: For those who are interested in epidemiology and public health in infectious diseases, I would suggest to choose working in developing countries where Japanese Universities already established the collaboration because the internship process is not so lengthy. Moreover, through an internship, you will have opportunities to meet with other experts/stakeholders in that particular countries who might have a great deal of experience or expertise in your field of interest.

Approval of supervisor	Institution・Official title・Name

※1 Send the electronic file to the Leading School section, International Affairs Office
※2 Attach a copy certificate of the content of internship activity that is prepared by the counterpart at the internship institution (any form with a signature of the counterpart).
※3 The Steering Committee of the Leading Program will first confirm the content of this report and report will be forwarded to the Educational Affairs Committee for credits evaluation.

Submit to：VETLOG

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