

# Environmental Parasitology

## 1. Staffs and Students (April, 2009)

Professor	Nobuo Ohta	
Associate Professor	Nobuaki Akao	
Assistant Professor	Takashi Kumagai	
Technical Assistant	Misato Tomoda	
Graduate Student		
PhD student	William Koffin Anyan, Toshie Taniguchi, Kei Kitamura, Toshihiro Tokiwa, Katarina Macuhova	Keisuke Nakayama, Takenori Seki, Bethel Kwansa-Bentum, Yuuki Miyazawa,
Master Student	Ichibon Fukuda,	Kumiko Sekiguchi

## 2. Purpose of Education

After the rapid decrease in frequency of parasitic diseases in after the War, several parasitic infections have been coming back because of the recent changes in life style, food supply and close contact with pet and wild animals. In addition, Japan is facing infectious pathogens through increasing physical distribution and human movement between Japan and developing tropical countries where parasitic diseases are endemic. It is serious concern for health and welfare of people in the world. Considering that parasitic diseases are included in Emerging and Re-emerging infectious diseases in these decades, health readers in Japan are expected to have understandings of parasitic diseases. Section of Environmental Parasitology set the purpose of education to lead students to be health leaders with full understanding of health and welfare under the variety of health situation.

## 3. Research Subjects

Following studies have been extensively carried out in our laboratory with various biological techniques of morphology, immunology, molecular biology and biochemistry.

- Pathological and morphological study of parasites, especially on larva migrans.
- Epidemiological study on parasitic diseases: distribution of angiostrongyloides and study on genetic variation of the parasite is investigated.
- Molecular epidemiology of tropical diseases: with a special reference of drug-resistant mutation of malaria parasites and malaria-transmitting mosquitoes in endemic areas.
- Immunological study on schistosomiasis including immunopathology and immunobiology from the approaches of gene-manipulated animal models and modulated gene expression by RNAi.

## 4. Clinical Services

Although clinical study is not the main subject of this Section, clinical aspects are investigated through development of new diagnostic tools and drugs.

## 5. Publications

### Original articles

1. Kumagai T, Osada Y, Ohta N, Kanazawa T.: Peroxiredoxin-1 from *Schistosoma japonicum* functions as a scavenger against hydrogen peroxide but not nitric oxide. *Molecular Biochemical Parasitology* 164:26-31.2009.
2. Osada Y, Shimizu S, Kumagai T, Yamada S, Kanazawa T.: *Schistosoma mansoni* infection reduces severity of collagen-induced arthritis via down-regulation of pro-inflammatory mediators. *International Journal for Parasitology* 39:457-64. 2009.
3. Koizumi N, Muto M, Tanikawa T, Mizutani H, Somura Y, Hayashi E, Akao N, Hoshino M, Kawabata H, Watanabe H. Human leptospirosis cases and the prevalence of rats harbouring *Leptospira interrogans* in urban areas of Tokyo, Japan. *Journal of Medical Microbiology*. 2009;58:1227-30.
4. Akiyama T, Ohta N.: Parasite-specific antibody profile in the aqueous humor of rabbits with ocular toxocariasis. *Parasitology International*, 59, (e-pub), 2009.

Review articles

Ohta N. New approaches to overcoming Neglected Tropical Diseases (NTDs). *Jpn Assoc Med Sci*, 52:353-356, 2009.

Book

(none)