PD – BIOTECHNOLOGY COMPONENT

Project title: *Effect of climate change on population dynamics of the swimming crab, Portunus pelagicus, and the epidemiology of selected disease causing organisms*

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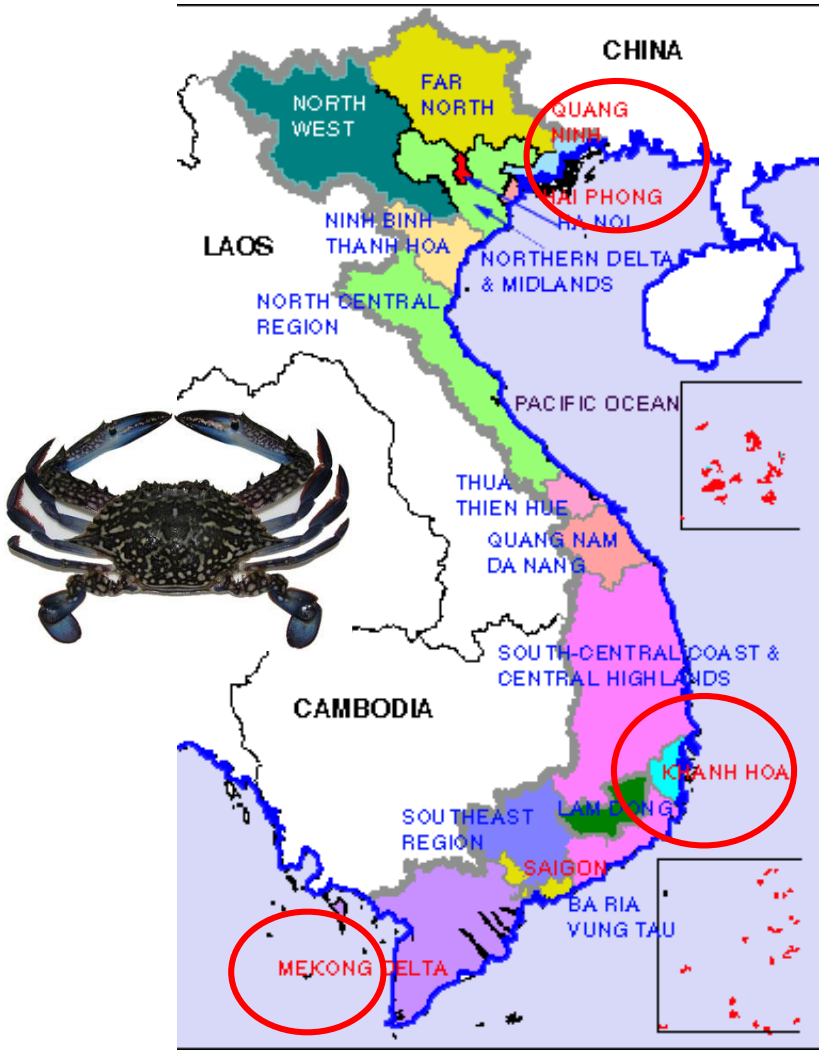
- Supervisor: Dr. Henrik Glenner
- Department of Biology. University of Bergen
- Institute for Biotechnology and Environment, Nha Trang University

Project activities

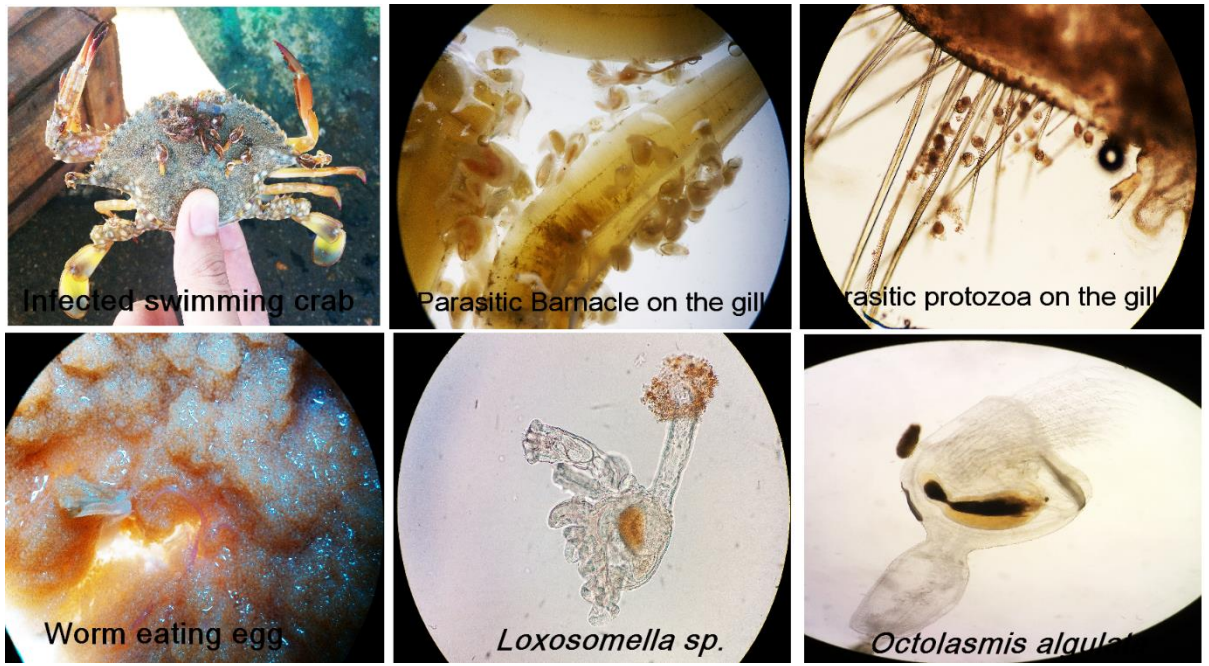


Sampling:

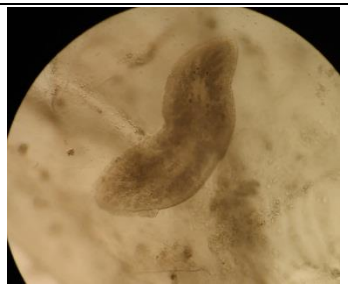
Conduct swimming crab (*P. pelagicus*) sampling in Quang Ninh and Hai Phong (North of Vietnam), Khanh Hoa, Phu Yen (Center), and Phu Quoc, Ranh Gia -Kien Giang (south) from (5/2016 -5/2017)

Research Result – symbiotic species diversity

- Examine symbiont species composition from different swimming crab (*P. pelagicus*) populations, new record for 4 species
- Identify symbiont species based on morphologic and genetic characters.
- Up to now, we found 18 species belong to 5 different phyla. Statically analysis showed the significant different between sampling locations, and sexes (crab male, and female). No trend was observed seasonally



Symbiont species on Swimming crab (*P. pelagicnus*)

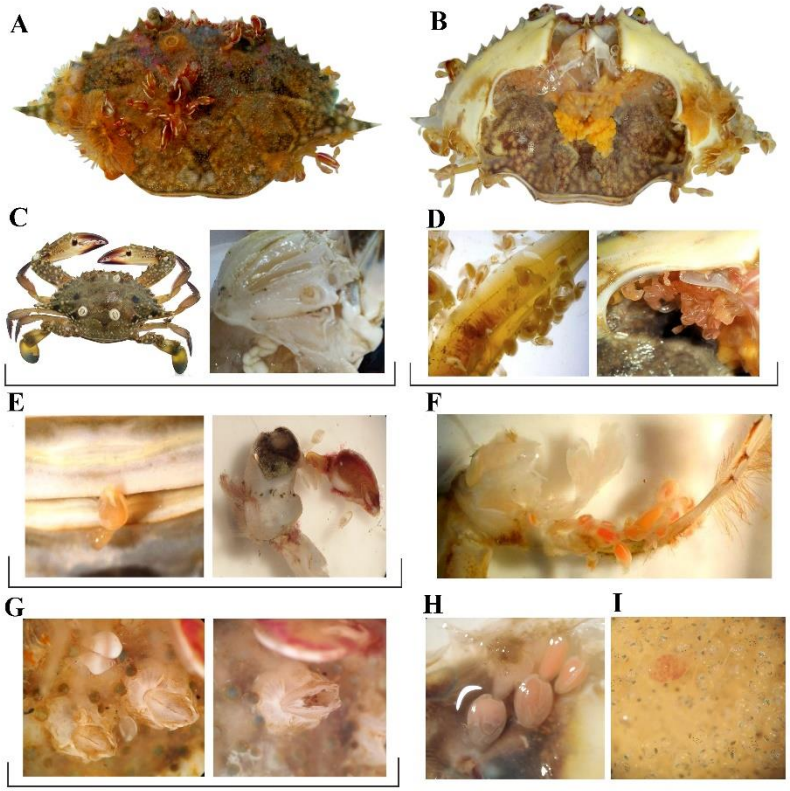
 *Octolasmis angulata*	 *Loxosomella* sp.	 *Epistylis* sp.
 *Chelonibia* sp.	 *Octolasmis triden*	 Flat worm

Symbiont species on Swimming crab

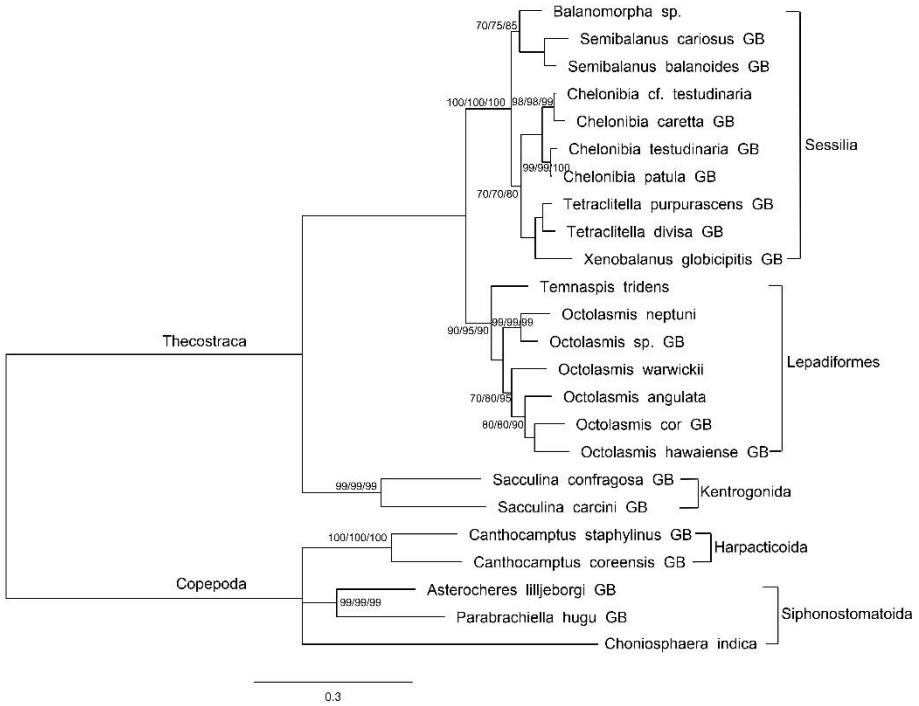
Heavy infected swimming crab *P. pelagicus) occupied by 8 diferent species*

Crustacean symbiotic species

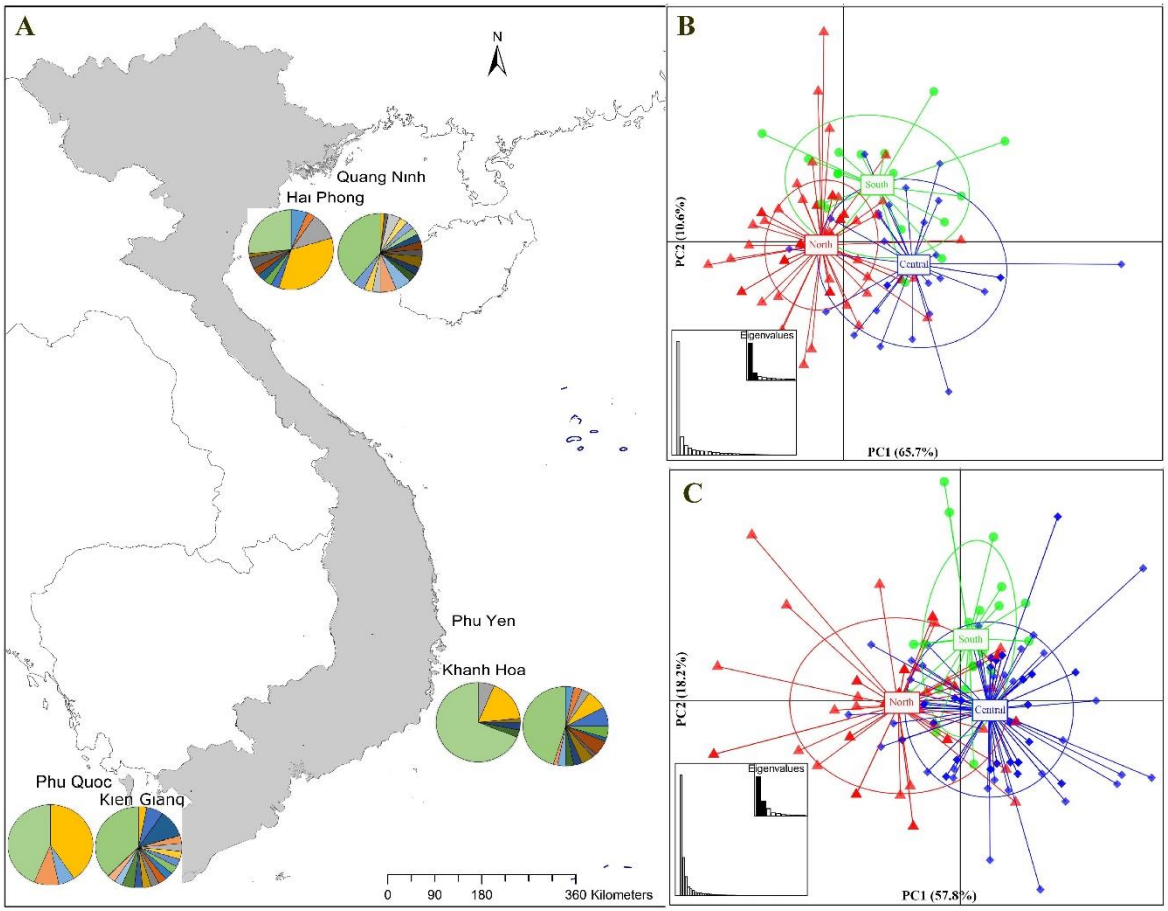
- **Species and infected sites**



- **Phylogenetic relationships**



Haplotype network of *Octolasmis angulata*



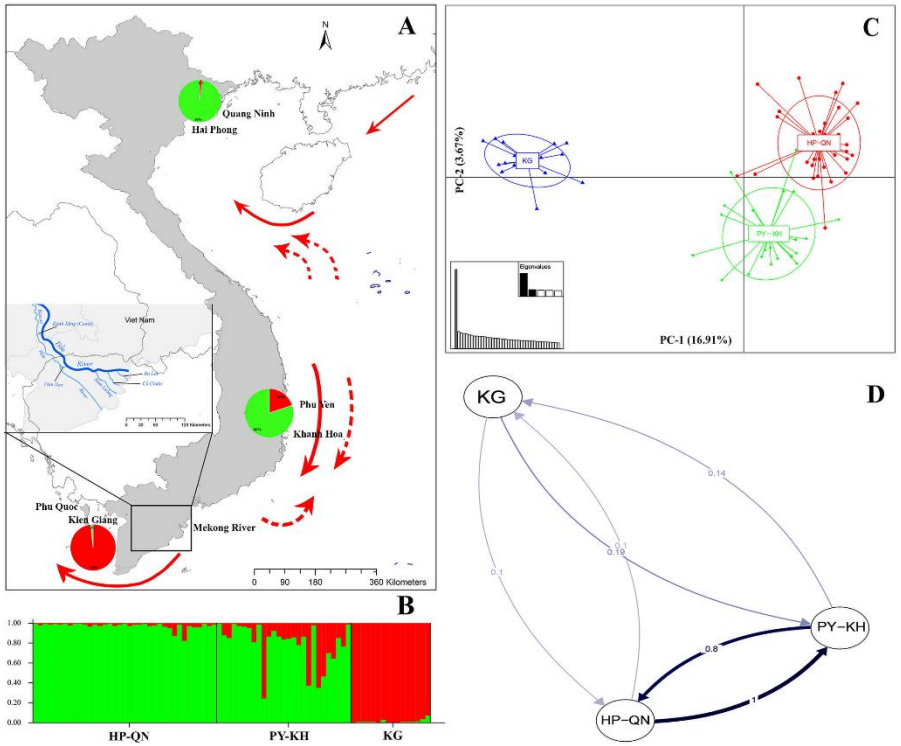
DAPC analysis of *Portunus pelagicus* populations

Research Result – host and symbiont cophylogenires

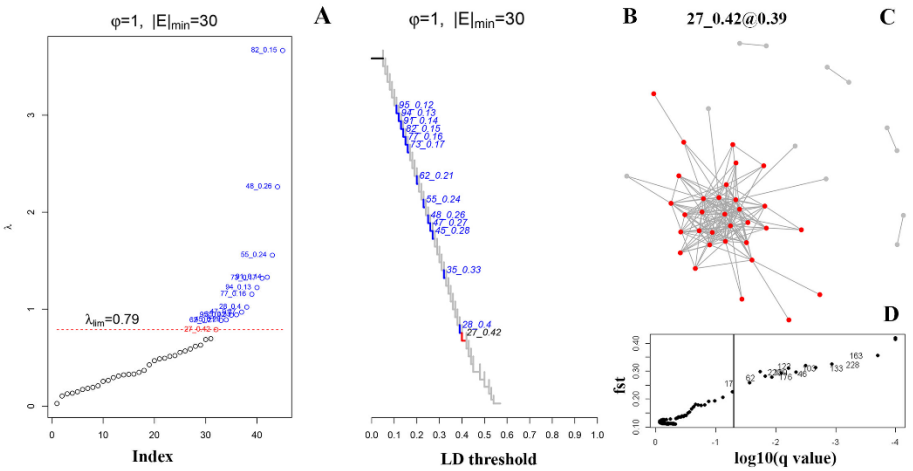
- Examine phylogenetic relationships of symbiont infected swimming crab (*P. pelagicus*)
- Examine population structure of common infected barnacle *Octolasmis angulata* on *P. pelagicus*

Research Result - Population genetics of *P. pelagicus*

- ***P. pelagicus* population genetics**



- **Detection of outlier loci**



Education

- Our Msc students
- 1 Msc in Biotechnology (Le Thi Lieu Oanh)
- 1 Msc in Ecosysterm management and Climate change
- (Muhammad Arifur Rahman)
- Several undergraduate students

What next?

- Attending international conferences
- Publications two MS