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[\[Veterinary Medicine\] NTU School of Veterinary Medicine Professor P. H. Chang's Lab on Viral Diseases in Abalone Designated by OIE as a Reference Lab](#)

[Veterinary Medicine] NTU School of Veterinary Medicine Professor P. H. Chang's Lab on Viral Diseases in Abalone Designated by OIE as a Reference Lab ([Chinese Version](#))

NTU Newsletter (Issue 1008) School of Veterinary Medicine, National Taiwan University, Professor Dr. P. H. CHANG has been involved with the research on the lesions of the *Haliotis diversicolor* raised in Taiwan for years. His research achievements were recognized by the OIE (World Organization for Animal Health) and his laboratory won the title of "Abalone herpes HIV reference laboratory" which received much respect and recognition of the experts attending the general session of OIE held in Paris from May 23rd to 28th. Since this designation, abalones around the world displaying diseases can be sent to Taiwan for diagnosis and identification.

Dean of the College of Life Sciences, NTU, Dr. Chu Fang LO was the first scholar from Taiwan to have her "shrimp white spot syndrome virus and baculovirus lab" designated by the OIE as a reference lab. Now Professor P.H. CHANG's achievements again received affirmation and commendation from the animal health experts at OIE. As an official from the Council of Agriculture of the Executive Yuan pointed out, that, Taiwan has actively participated in the affairs of OIE for many years, and has consistently provided disease diagnosis tests and technological guidance to OIE's 176 member nations, showing Taiwan's positive contribution to international welfare.

The main task of a "reference lab" is to monitor the various animal diseases on the list of OIE, and to help solve the scientific and technological problems associated with the diseases. OIE designates a "reference lab" for a specific disease, and the function of the "reference lab" is to provide specialized knowledge of the disease and diagnostic technology standardization. Also, the "reference lab" provides scientific and technical assistance to OIE and its member nations, so as to monitor and control the occurrence and spread of the disease. So far, OIE has established 187 "reference labs" in 36 countries, and these "reference labs" are run by 161 experts. In addition, OIE has set up 33 "collaborating centers" in 20 countries to deal with 33 specific problems.

In 2003, because large number of the seedlings of *Haliotis diversicolor* died in Taiwan's aquaculture farms, some owners of these farms bought seedlings from other areas in the globe, thus indirectly bringing in pathogens which caused the *Haliotis diversicolors* to die in large quantities. Tests and experiments of the dead *Haliotis diversicolors* proved for the first time the existence of herpes like viruses in the raised *Haliotis diversicolors*. This was the first time that herpes like viruses were found in the genus *Haliotis* shellfish in Taiwan while no report of such viruses was found in other countries. Pathology wise, new findings were also found. The virus was found to have an affinity with the nervous system, and its lesion lay primarily in the violation of the ganglia, inducing extensive necrosis in the brain ganglia, and causing large amounts of blood cell infiltration outside the ganglia proper and nerve sheaths.

It is understood that so far, in the fish and shellfish's case of herpes virus there has been no report of ganglion lesions. Under an electron microscope, because the virus particles, structure and infections are similar to the viruses of other animals of the same size, the virus can be exclusive to *Haliotis diversicolor*. This disease often occurs in the seasonal low temperature period, and when the temperature is below 20 C, the morbidity and mortality rate are especially high. The incubation period for this virus is short, and the spread is very fast, causing the *Haliotis diversicolors* in the aquaculture zone to die in large quantities, resulting in heavy losses to the fishing industry.

As to how to solve the plight of abalone farming, because abalones are normally farmed in open waters, ordinary quarantine measures have limitations and limited effects. According to the French experience in oyster herpes virus infection, if anti-virus species were introduced, the scale of oyster farming could be restored, and economic losses could be reduced. Therefore, to look for anti-virus species of abalone is perhaps the way to solve the problem of farming "*Haliotis diversicolor*" in Taiwan. At present the Bureau of Animal and Plant Health Inspection and Quarantine of the Council of Agriculture and the Fishery Administration are actively promoting research in this area, hoping to find disease-resistant new species, so that abalone farming boom can be restored.

Reference:

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