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• 計畫英文名稱	Relationships between Metallothionein and Toxicants in Oysters and Rock-Shells of Taiwan
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• 研究人員	韓柏檉；鄭偉力 Han, Bor-Cheng；Jeng, Woei-Lih
• 中文關鍵字	金屬硫蛋白；重金屬；牡蠣；蚵岩螺；生物偵測研究
• 英文關鍵字	Metallothionein；Heavy metal；Oyster；Rock shell；Biomonitoring research
• 中文摘要	有些金屬是經由一種低分子量蛋白稱爲金屬硫蛋白的物質結合在肝臟及腎臟中。本研究進行爲動機是爲了了解金屬及金屬硫蛋白濃度還有必需金屬 Zn、Cu、非必需金屬 Hg、Cd、Sn、As 在組織之內的關係。 這些結果指出銅和鋅在牡蠣和蚵岩螺體內之濃度依不同地區及不同種類而異,而來自鹿港的蚵岩螺含有高濃度的鉛和鎘(各約 1-4.mu.g/g 及 5-8.mu.g/g 溼重),其鋅和銅的濃度爲 1437.mu.g/g 和 812-1022.mu.g/g,這個濃度大於牡蠣中鋅和銅的濃度(分別約爲 721.mu.g/g 和 315-396.mu.g/g)。 除此之外,所有的樣本都在光譜分析儀波長 250nm 和 280nm 下,分析從香山、鹿港和布袋岩石區的牡蠣和蚵岩螺的金屬硫蛋白。牡蠣和蚵岩螺在波長 280nm 有高吸收率爲 1.5 及 2.0,大致而言,在蚵岩螺中發現高濃度的金屬硫蛋白其鍵結親合力比較分別是鉛<鎘和鋅<銅。
• 英文摘要	Heavy metals are bound up within the liver and kidney to a low molecular weight protein called metallothionein. Few studies have investigated metallothionein levels in shellfish of Taiwan. The study is understand to investigate metal and metallothionein concentrations, and inter- and intra-tissue relationships between metallothionein, the essential metals Zn and Cu, and the nonessential metals Hg, Cd, As, and Sn. The results show that Cu and Zn concentrations in oysters and rock-shells varied with different species and sampling locations. However, the higher Pb and Cd concentrations of 1-4.mu.g/g and 5-8.mu.g/g wet weight were obtained in oysters from the Lukong coastal area. In Lukong area, the concentrations of Zn (1437.mu.g/g) and Cu (812-1022.mu.g/g) in rock-shells is higher than those of Zn and Cu concentrations (721.mu.g/g and 315-396.mu.g/g, respectively) in oysters. In addition, all fraction were measured at 250 and 280nm on a spectrophotometer for metallothionein of oysters and rock-shells collected from Hsiangshan, Lukang, and Putain coastal areas. The high absorbance are 1.50 and 2.00 at 280nm for oysters and rock-shells. In general, the higher metallothionein was found in

rock-shells. In order of increasing binding affinity for metallothionein was, the list of metals are Pb