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## 利用聲探回訊信號處理及典型判別 分析法區分魚種之研究

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在有混雜魚種棲息之水域，利用超音波迅捷評估魚羣現存量時遭遇到無法區別魚種之困擾；本研究於 1988~1989 年夏天，在有二（鎖管及鰻科魚種）或三（鎖管、鰻、鯉魚）混合魚種之臺灣東北角水域進行試驗，將混合魚種之聲探類比回訊收錄在磁帶錄音機中，並在實驗室中進行聲探回訊信號處理，將所求得之魚羣回訊因子做為說明變數，經逐步判別分析法選出主成分之說明變數後，以典型判別分析所得之線性典型判別式，證實其同時考量有魚羣內在結構、外在結構及羣集行動等生物資訊，對混合組成魚種之區分率高達94%以上；不過，水域環境不同或組成魚種不同時，其擷取之說明變數或判別式之係數亦有差異，故需使用不同之判別式。