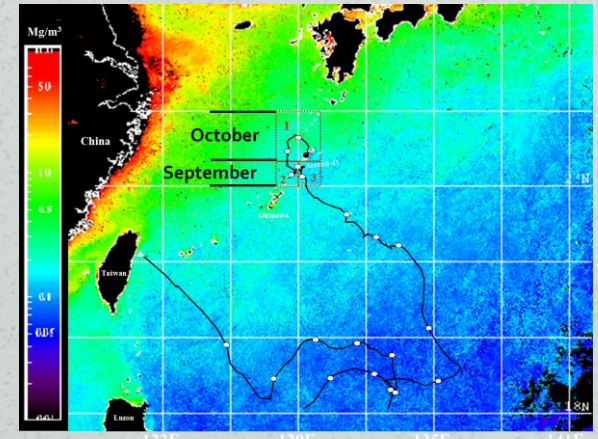
水產資源研究室

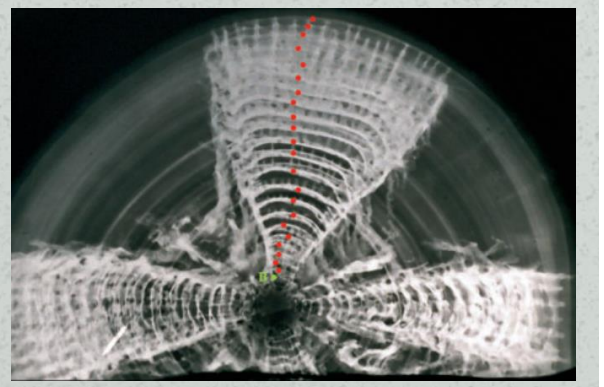
莊守正 教授

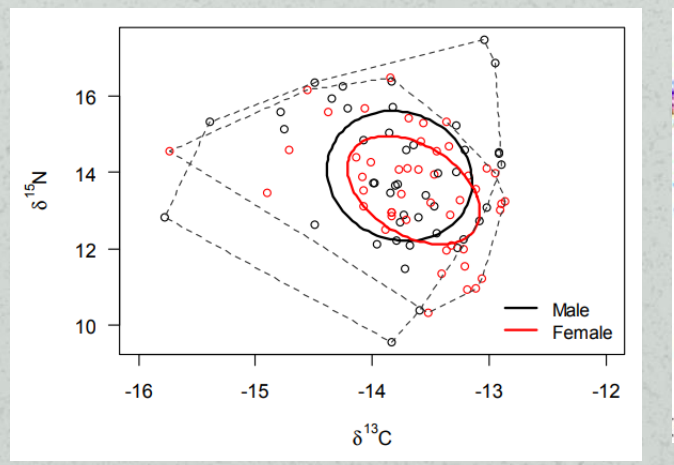
國立臺灣海洋大學漁業科學研究所博士（1993）
國立臺灣海洋大學漁業研究所（1983）
國立臺灣海洋大學漁業學系學士（1981）

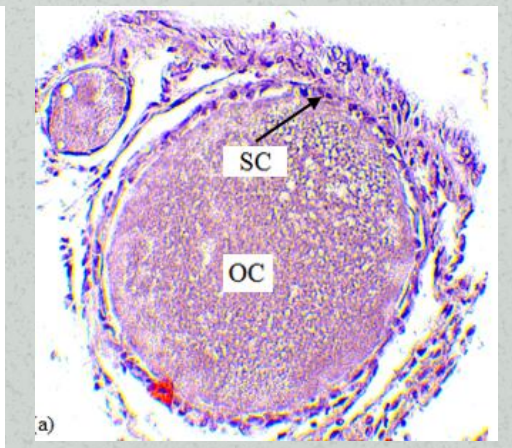


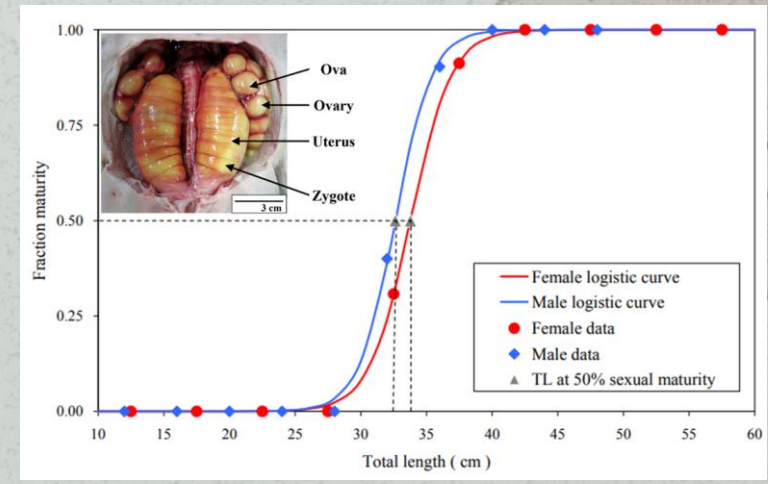
研究方向

本研究室致力於軟骨魚類的分類、系群動態、生殖、成長、攝食生態、移動等研究。研究所得之生物學參數有利於漁業資源永續管理措施之擬定。









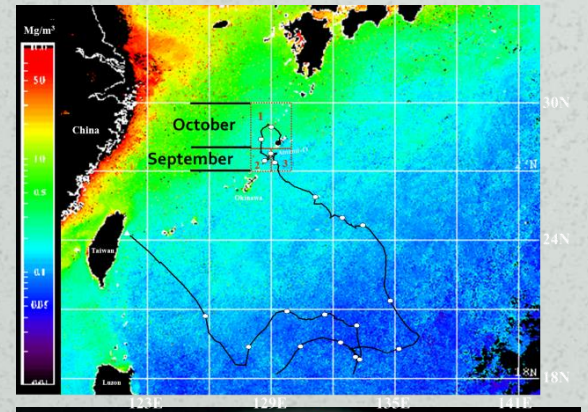
執行中之研究計畫

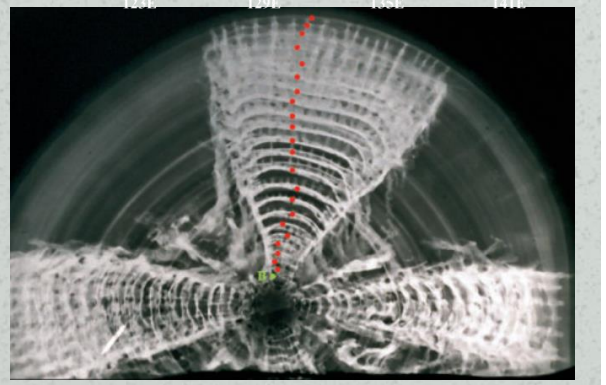
- 臺灣沿近海域降低海洋保育類生物混獲之忌避措施可行性評估(海保署)
- 臺灣西部沿近海軟骨魚類資源調查(海保署)
- 西北太平洋鯨鯊洄游行為研究（駿邑國際）

Fish Population Dynamics

Joung Shoou-Jeng Professor

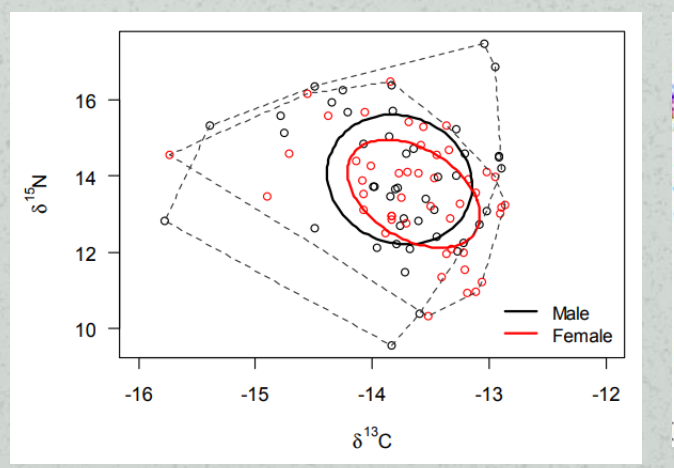
Ph.D., National Taiwan Ocean University, Graduate School of Fisheries Science. (1993)
M.S., National Taiwan Ocean University, Graduate School of Fisheries.(1983)
B.S., National Taiwan Ocean University, Fishery.(1981)

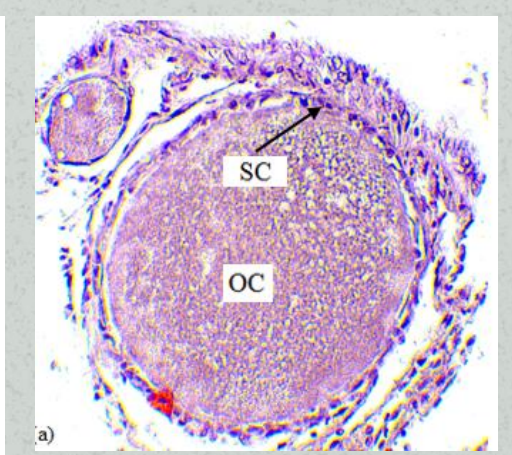


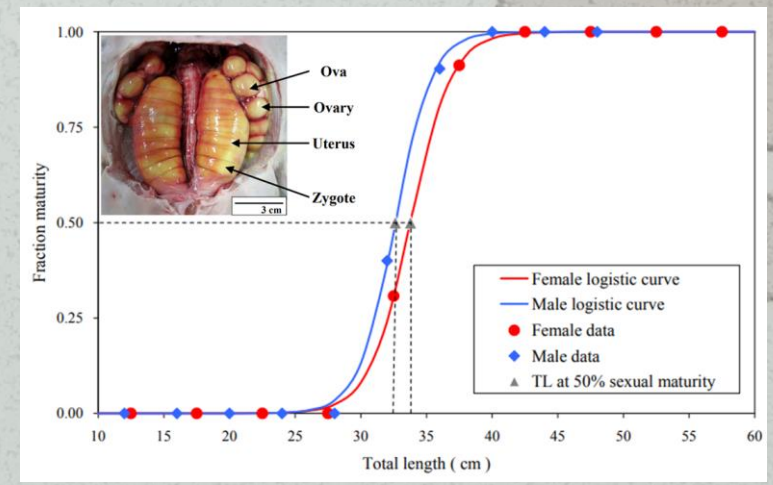


Aim

Our researches focus on the taxonomy, stock assessment, reproduction, age and growth, feeding ecology, and movement of elasmobranches. All the results could be the parameters for further resource management.







Our projects

- Mitigation strategies for reducing accidental catch of marine conservation species in the coastal waters of Taiwan (Ocean Conservation Administration)
- Investigation on the resources of chondrichthyans in the western Taiwan waters (Ocean Conservation Administration)
- Migration of the Whale Shark in the Northwestern Pacific (Glamour Fine Jewelry)

Zoological Studies **2020**, 59:48; doi:10.6620/ZS.2020.59-48

臺灣東部海與的新種睡鯊---陳氏睡鯊與其胚胎生物學描述

Zoological Studies 59:48 (2020)
doi:10.6620/ZS.2020.59-48

Zoological Studies

Open Access

Somniosus (*Rhinoscymnus*) *cheni* sp. nov., A New Species of Sleeper Shark (Squaliformes: Somniosidae) from Eastern Taiwan, with Aspects of Embryo Biology

Hua-Hsun Hsu[1], Chia-Yen Lin[2,3], and Shoou-Jeng Joung[2,3,*]

[1]*Marine Studies Section, Center for Environment and Water, Research Institute, King Fahd University of Petroleum and Minerals, Dhahran 31261, Saudi Arabia. E-mail: hsuhuahsun@yahoo.com.tw (Hsu)*
[2]*Department of Environmental Biology and Fisheries Science, National Taiwan Ocean University, Keelung 20224, Taiwan. E-mail: skinomotohiko@gmail.com (Lin)*
[3]*George Chen Shark Research Center, National Taiwan Ocean University, Keelung 20224, Taiwan.*
**Correspondence: E-mail: f0010@ntou.edu.tw (Joung). Tel: +886-2-24622192 ext. 5039*

Received 3 June 2019 / Accepted 28 July 2020 / Published 22 September 2020
Communicated by Hin-Kiu Mok

重要研究成果

- 本研究透過傳統分類學的標準檢視一尾於台灣東部花蓮海域捕獲，體全長為134 cm的懷孕雌魚樣本，將其歸類為一潛在的新種。
- 該物種屬於小種群（亞屬 *Rhinoscymnus*），與同類的區別在於第二背鰭較小，眼睛較小，上頜牙齒多而下頜牙齒少，身體比例不同。
- 該標本有33 個胚胎，大大超過該亞屬中的其他兩個小物種，本研究還提供了有關本種胚胎生物學的一些訊息。

Fig. 5. Closeup of teeth of *Somniosus* (*Rhinoscymnus*) *cheni* sp. nov., from the holotype.

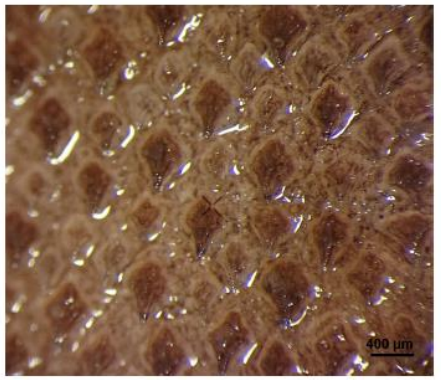


Fig. 6. Dermal denticles on the trunk below first dorsal fin of holotype, *Somniosus* (*Rhinoscymnus*) *cheni* sp. nov., anterior to up.

Regional Studies in Marine Science **2020**, 35, 101234; doi:10.6620/ZS.2020.59-48

臺灣北部海域斑竹狗鮫隨個體成長的攝食轉變

Contents lists available at ScienceDirect

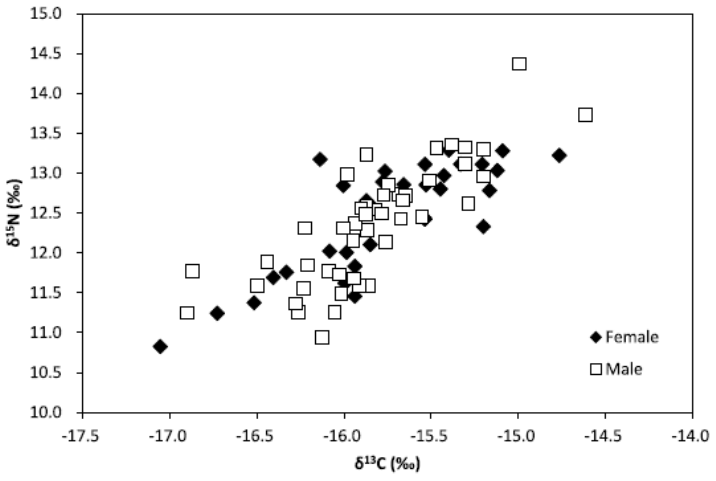
Regional Studies in Marine Science

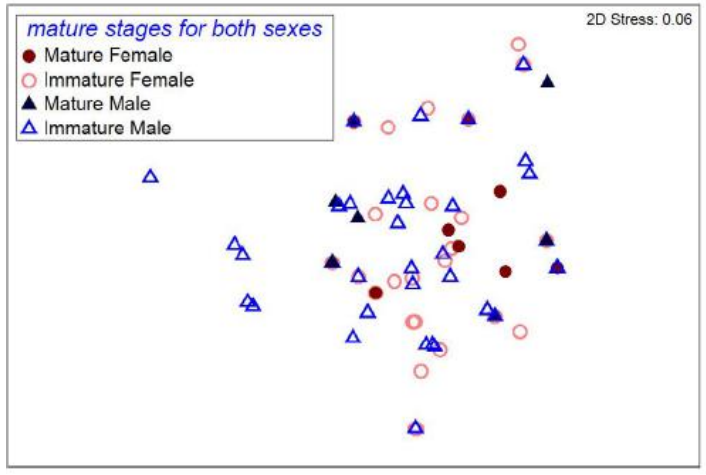
journal homepage: www.elsevier.com/locate/rsma

Examining an ontogenetic shift in the diet of the whitespotted bamboo shark *Chiloscyllium plagiosum* in northern Taiwanese waters

Kwang-Ming Liu [a,b,c,*], Yu-Han Lin [d], Sheng-Kai Chang [d], Shoou-Jeng Joung [b,d], Kuan-Yu Su [a,b]

[a] Institute of Marine Affairs and Resource Management, National Taiwan Ocean University, Keelung, Taiwan
[b] George Chen Shark Research Centre, National Taiwan Ocean University, Keelung, Taiwan
[c] Centre of the Excellence for the Oceans, National Taiwan Ocean University, Keelung, Taiwan
[d] Department of Environmental Biology and Fisheries Science, National Taiwan Ocean University, Keelung, Taiwan





重要研究成果

- 本研究透過2013-2015年於台灣北部海域採集斑竹狗鮫（*Chiloscyllium plagiosum*）的胃內容物與肌肉樣本進行食性與穩定性同位素分析。
- 胃內容物分析結果顯示，斑竹狗鮫以Demospongiae、不明生物、環節動物和甲殼類動物為主要餌料生物。幼魚階段更喜歡環節動物和甲殼類動物，而成魚階段則偏好攝食硬骨魚。由多變量分析結果並無法看出漁具、性別、成熟階段或季節之間的餌料生物組成有顯著差異。
- 穩定性同位素分析結果發現雌雄魚的$\delta^{13}C$、$\delta^{15}N$平均值相似，意即雌雄魚的攝食重疊度高。然而透過多變量分析可發現$\delta^{13}C$、$\delta^{15}N$平均值在不同季節、成熟階段和季節-成熟階段相互作用之間存在顯著差異。此結果顯示當斑竹狗鮫趨近於成熟狀態，越會有攝食上的轉變。

Fisheries Science **2020**, 86(5), 793-805; https://doi.org/10.1007/s12562-020-01448-8

臺灣海峽中部海域黃錫鯛的生殖生物學

Fisheries Science (2020) 86:793–805
https://doi.org/10.1007/s12562-020-01448-8

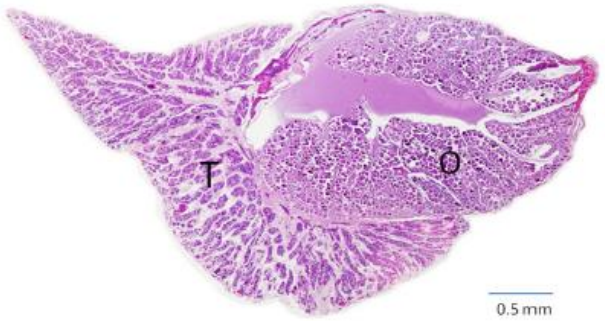
ORIGINAL ARTICLE

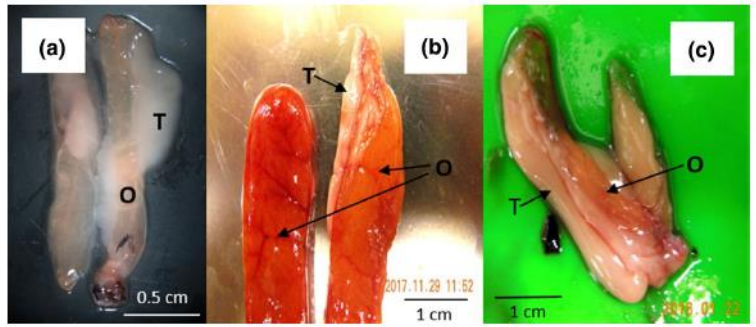
Biology

The reproductive biology of the hermaphroditic goldlined seabream *Rhabdosargus sarba* in the central waters of the Taiwan Strait

Shyh-Bin Wang[1,3] · Tse-Lin Hsu[2] · Shoou-Jeng Joung[2]

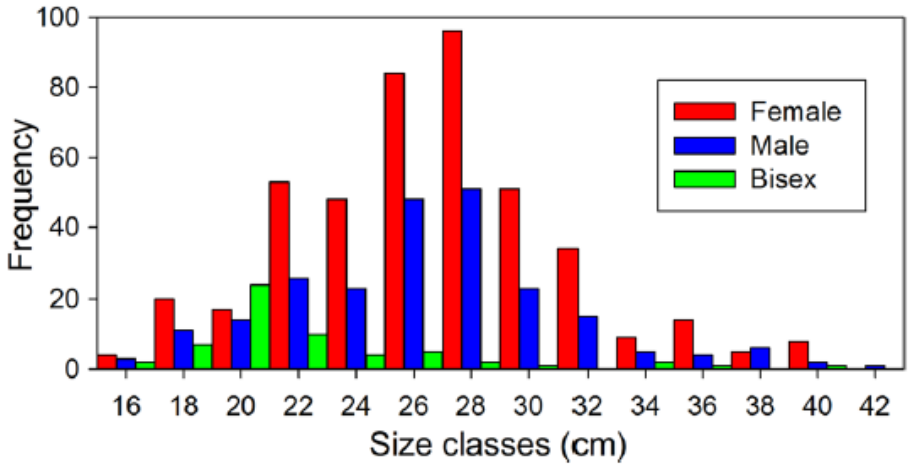
Received: 16 April 2020 / Accepted: 7 July 2020 / Published online: 3 August 2020





重要研究成果

- 透過觀察802尾黃錫鯛(*Rhabdosargus sarba*)生殖腺樣本，本研究發現與全球其他海域相互矛盾的生殖訊息策略。透過性別比例以及生殖腺發育狀態及個體觀察，臺灣海峽中部的黃錫鯛應為雌雄同體。
- 由生殖腺外觀構造、性線指數以及生殖切片觀察，本研究確信黃錫鯛於台灣海峽中部的產卵季節為12月至隔年3月，平均產卵量為825,078 ± 431,672 個卵。
- 透過魚體狀態因子與肝指數月別變化可間接推測，本種的肌肉比例與肝臟狀態可能與其產卵活動密切相關。



Aquaculture Research **2020**, 51:5015–5028; doi: 10.1111/are.14839

臺灣西部海域黃鰭鯛的生殖生物學

Received: 23 April 2020 | Revised: 1 August 2020 | Accepted: 4 August 2020

DOI: 10.1111/are.14839

ORIGINAL ARTICLE

Aquaculture Research WILEY

Reproductive characteristics of the hermaphroditic yellowfin seabream *Acanthopagrus latus* in the waters off western Taiwan

Shyh-Bin Wang[1,2] | Ka-Yiu Lau[1] | Kwang-Min Liu[1,2] | Shoou-Jeng Joung[3] | Chun-Hung Liu[4]

[1]Institute of Marine Affairs and Resource Management, National Taiwan Ocean University, Keelung, Taiwan

[2]Center of Excellence for the Oceans, National Taiwan Ocean University, Keelung, Taiwan

[3]Department of Environmental Biology and Fisheries Science, National Taiwan Ocean University, Keelung, Taiwan

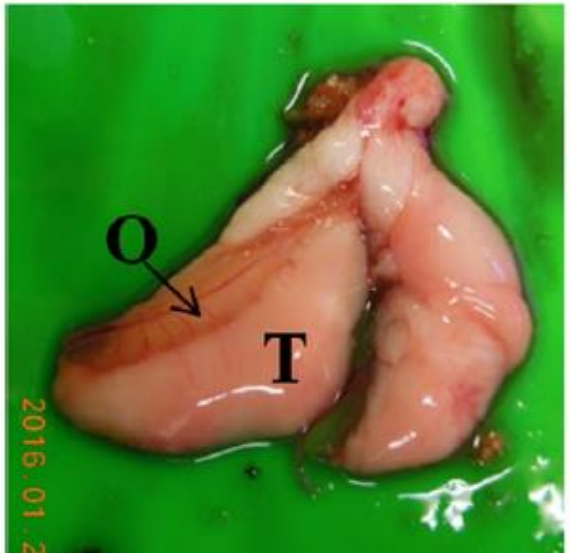
[4]Department of Aquaculture, National Pingtung University of Science and Technology, Pingtung, Taiwan

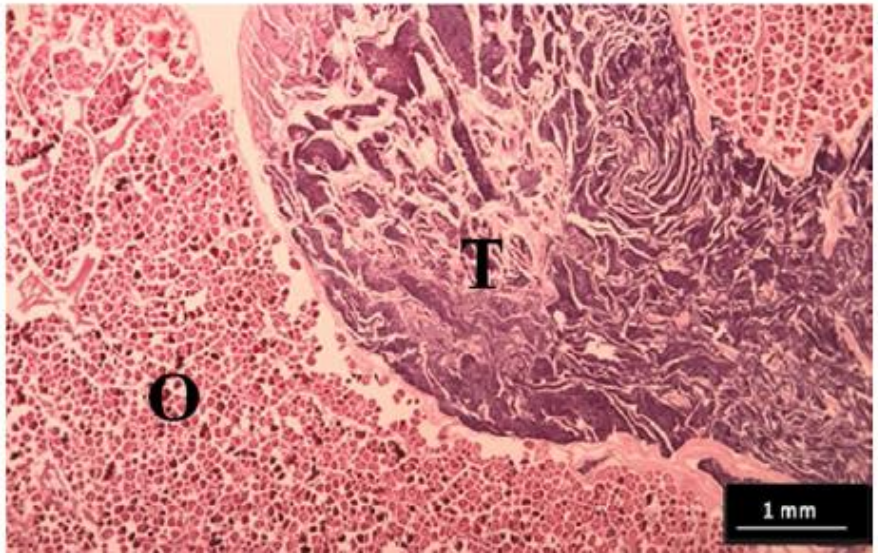
Correspondence
Shyh-Bin Wang, Institute of Marine Affairs and Resource Management, National Taiwan Ocean University, Keelung 20224, Taiwan.
Email: sbwang@mail.ntou.edu.tw

Funding information
Fisheries Agency, Council of Agriculture, Taiwan. Grant/Award number: 105AS-14.1.1-FA-F2.

重要研究成果

- 透過觀察938尾黃鰭鯛(*Acanthoagrus latus*)的生殖腺樣本，本研究指出本種的產卵季節為9-12月。本種為非同步產卵的物種，平均產卵數為2,444,787 ± 1,205,991個卵，性別比例雌雄魚間有顯著的不同，在不同大小魚體和月別之間都以雌魚為主。
- 本種被認為是先雄後雌的雌雄同體物種，但本研究不排除雌雄同體痕跡影響分析。個體的繁殖力與體常、體重、年齡之間存在正相關性，前述這些結果都是本種繁殖能成功的策略。





Environmental Pollution **2021**, 269, 116161.; https://doi.org/10.1016/j.envpol.2020.116161

臺灣東部海域巨口鯊肌肉的微量元素分析與消費風險評估

Profile and consumption risk assessment of trace elements in megamouth sharks (*Megachasma pelagios*) captured from the Pacific Ocean to the east of Taiwan

Yun-Ru Ju [a], Chih-Feng Chen [b], Chiu-Wen Chen [b], Ming-Huang Wang [b], Shoou Jeng Joung [c], Chi-Ju Yu [c], Kwang Ming Liu [d], Wen-Pei Tsai [e], Shang Yin Vanson Liu [f], Cheng-Di Dong [b,*]

[a] *Department of Safety, Health and Environmental Engineering, National United University, Miaoli 36063, Taiwan*

[b] *Department of Marine Environmental Engineering, National Kaohsiung University of Science and Technology, Kaohsiung 81157, Taiwan*

[c] *Department of Environmental Biology and Fisheries Science, National Taiwan Ocean University, Keelung 20224, Taiwan*

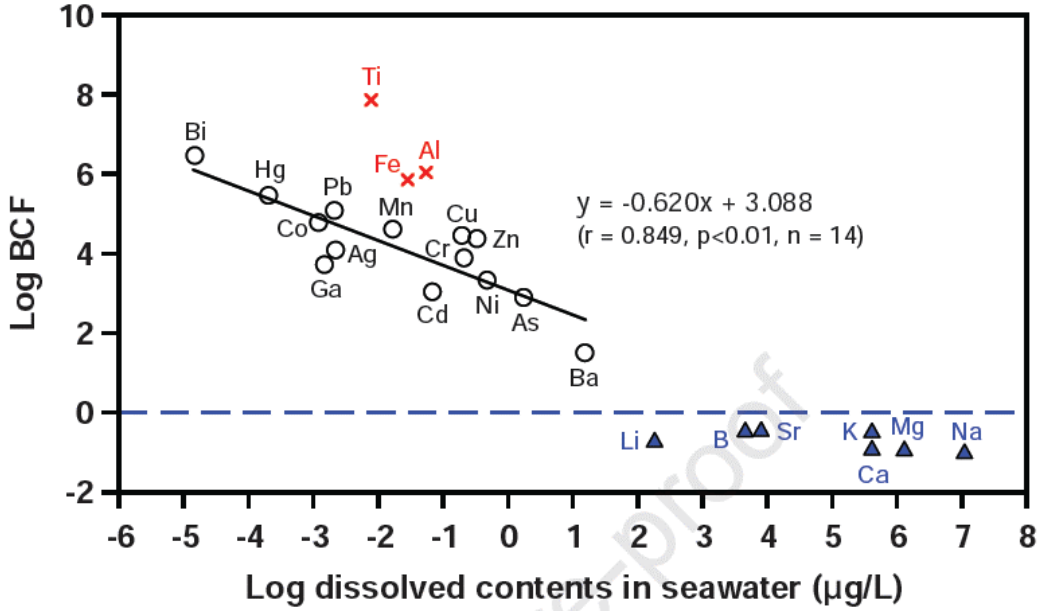
[d] *Institute of Marine Affairs and Resource Management, National Taiwan Ocean University, Keelung 20224, Taiwan*

[e] *Department of Fisheries Production and Management, National Kaohsiung University of Science and Technology, Kaohsiung 81157, Taiwan*

[f] *Department of Marine Biotechnology and Resources, National Sun Yat-Sen University, Kaohsiung 81157, Taiwan*

重要研究成果

- 本研究分析臺灣東部海域所混獲27尾巨口鯊肌肉樣本的24種元素濃度，探討每種元素的生物累積狀況和不同元素之間的相互關係，並評估食用巨口鯊所存在的潛在健康風險。
- 巨口鯊肌肉中元素的積累主要受海水中溶解元素濃度的影響。食用巨口鯊魚肉的健康風險評估結果指出，其總危害指數大於1，也就是說長期或高頻食用巨口鯊肌肉可能會因微量元素的積累而導致健康危害，尤其是微量元素As、Hg 和 Cu。



Aquatic Conserv: Mar Freshw Ecosyst **2021**, 31:2193–2203; doi: 10.1002/aqc.3592

三種 CITES 列名鯊魚物種的DNA快篩方法

Received: 24 September 2020 | Revised: 24 January 2021 | Accepted: 11 February 2021

DOI: 10.1002/aqc.3592

RESEARCH ARTICLE

WILEY

A direct multiplex loop-mediated isothermal amplification method to detect three CITES-listed shark species

Tzu-Chun Lin[1] | Wanchien Victoria Hsiao[1] | Shang-Jung Han[2] | Shoou-Jeng Joung[3] | Jen-Chieh Shiao[1]

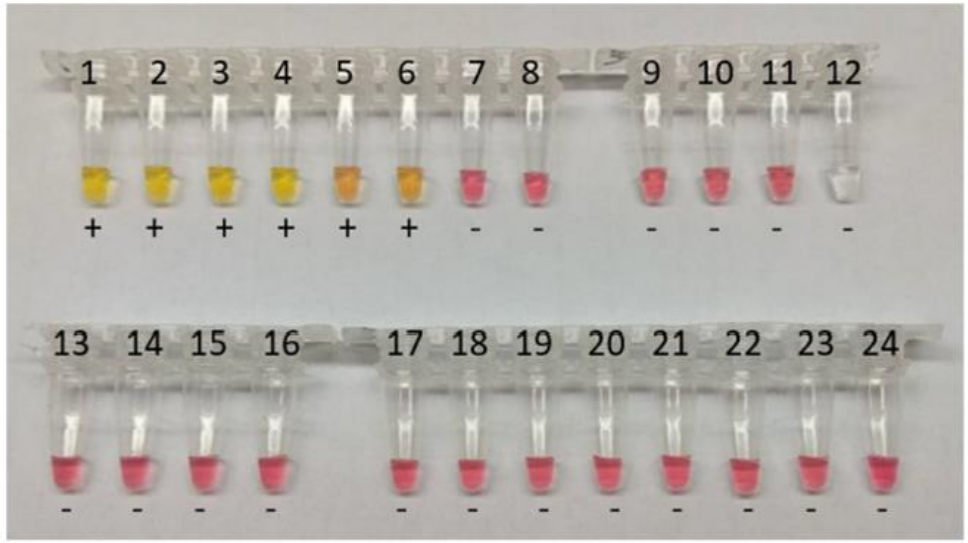
[1]Institute of Oceanography, National Taiwan University, Taipei City, Taiwan

[2]Institute of Fisheries Science, National Taiwan University, Taipei City, Taiwan

[3]Department of Environmental Biology and Fisheries Science, National Taiwan Ocean University, Keelung City, Taiwan

Correspondence
Jen-Chieh Shiao, Institute of Oceanography, National Taiwan University, No. 1, Sec. 4, Roosevelt Rd., Taipei City, Taiwan.
Email: jcshiao@ntu.edu.tw

Funding information
Taiwan Fisheries Agency, Grant/Award Number: 107AS-9.1.4-FA-F1



重要研究成果

- 物種的快速鑑定對於執法和物種保護都有所幫助，因此快速檢測CITES列名物種的方法近年來正不斷研發。
- 本研究以淺海狐鮫(*Alopias pelagicus*)、深海狐鮫(*A. superciliosus*)及紅肉丫髻鮫(*Sphyrna lewini*)為實驗物種。透過恆溫式圈環形核酸增幅技術(LAMP)，以84個樣本進行了多重檢測並成功識別目標和非目標種。
- 本研究提供了一種快速（<1 小時）、簡單、可靠的方法來區分三種CITES列名的鯊魚物種，研究結果將協助魚政機關和海關在較短時間內迅速辨別非法捕撈和貿易的三種鯊魚物種。

Animals **2021**, 11, 2161. https://doi.org/10.3390/ani11082161

以整合性生態風險評估法進行西北太平洋表層大洋性鯊魚的脆弱性評估

animals

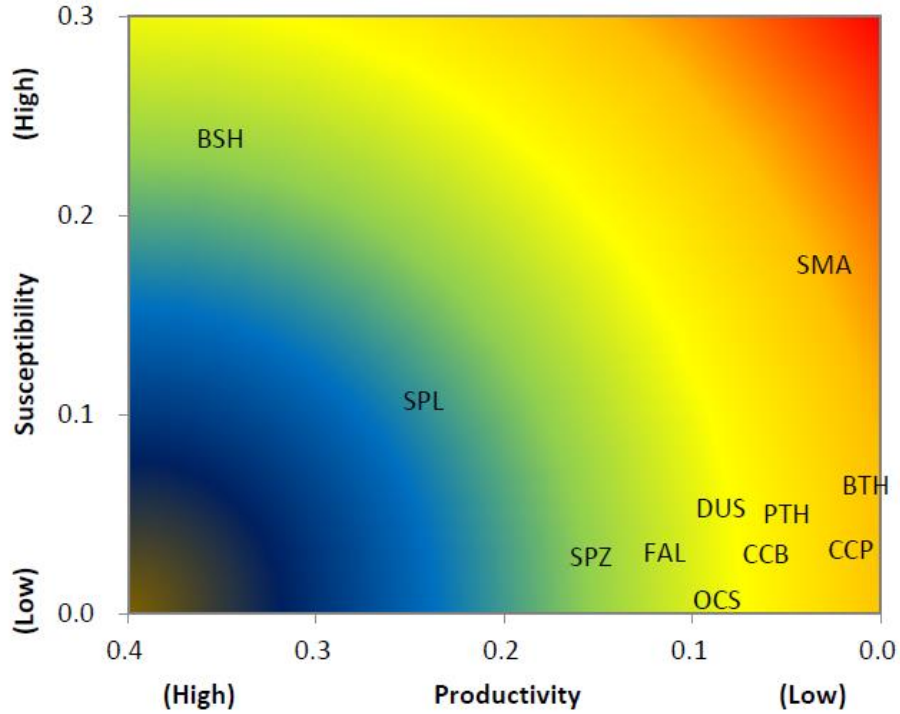
MDPI

Article

Vulnerability Assessment of Pelagic Sharks in the Western North Pacific by Using an Integrated Ecological Risk Assessment

Kwang-Ming Liu [1,2,3,*], Lung-Hsin Huang [1], Kuan-Yu Su [1] and Shoou-Jeng Joung [2,4]

1 Institute of Marine Affairs and Resource Management, National Taiwan Ocean University, Keelung 20224, Taiwan; resumption2@gmail.com (L.-H.H.); supipi76@gmail.com (K.-Y.S.)
2 George Chen Shark Research Center, National Taiwan Ocean University, Keelung 20224, Taiwan; f0010@mail.ntou.edu.tw
3 Center of Excellence for the Oceans, National Taiwan Ocean University, Keelung 20224, Taiwan
4 Department of Environmental Biology and Fisheries Science, National Taiwan Ocean University, Keelung 20224, Taiwan
* Correspondence: kmliu@mail.ntou.edu.tw



重要研究成果

- 本研究蒐集1982-2011年間大量樣本(n>678,000)的體重變化趨勢，結合族群成長曲線的曲點與整合性生態風險評估(ERA)法，評估延繩釣漁業對西北太平洋表層大洋性鯊魚的族群影響。
- 研究結果建議應對紅肉丫髻鮫(*Sphyrna lewini*)、平滑白眼鮫(*Carcharhinus falciformis*)及薔薇白眼鮫(*C. brevipinna*)有較為嚴格的管理措施；深海狐鮫(*Alopias superciliosus*)及高鰭白眼鮫(*C. plumbeus*)則應設置總可捕量管制；而丫髻鮫(*S. zygaena*)、灰鯖鮫(*Isurus oxyrinchus*)、淺海狐鮫(*A. pelagicus*)、污斑白眼鮫(*C. longimanus*)以及灰色白眼鮫(*C. obscurus*)則需要更進一步的監測方案。

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以多模型法估計板鰓類之成長與生活史特性

Multi-Model Approach on Growth Estimation and Association With Life History Trait for Elasmobranchs

Kwang-Ming Liu[1,2,3], Chiao-Bin Wu[1], Shoou-Jeng Joung[2,4], Wen-Pei Tsai[5] and Kuan-Yu Su[1,2]*

[1] Institute of Marine Affairs and Resource Management, National Taiwan Ocean University, Keelung, Taiwan, [2] George Chen Shark Research Center, National Taiwan Ocean University, Keelung, Taiwan, [3] Center of Excellence for the Oceans, National Taiwan Ocean University, Keelung, Taiwan, [4] Department of Environmental Biology and Fisheries Science, National Taiwan Ocean University, Keelung, Taiwan, [5] Department of Fishery Production and Management, National Kaohsiung University of Science and Technology, Kaohsiung, Taiwan

重要研究成果

- 年齡與生長資訊對魚類族群資源量評估的準確性舉足輕重，早期對軟骨魚類年齡成長的描述多依賴於 von Bertalanffy 生長模型 (VBGM)；前人研究已提到不同種類、不同生活史階段的特徵有所差異，有鑑於此，該模型可能並非適合所有軟骨魚類的成長描述。
- 本研究透過4種成長模型(VBGM、雙參數VBGM、Robertson 和 Gompertz)配合38種軟骨魚類的成長參數進行觀察。研究結果顯示VBGM和雙參數VBGM模型最適合大型鯊魚等生長緩慢和壽命長的物種；Robertson 和 Gompertz 模型則適合成長快速的小型鯊魚及在深水區成長的魟鰩類。而淺水區域的小型鯊魚則建議使用雙參數VBGM和Robertson模型。