

# PRIORITISING THE MANAGEMENT OF THE AQUATIC INVASIVE ALIEN SPECIES IN MALAYSIA: CHALLENGES AND CURRENT RESEARCH



KEMENTERIAN PERTANIAN  
DAN KETERJAMINAN MAKANAN

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- The invasion of alien species is one of the major threats to biodiversity, which has led to emerging challenges in management measures.
- In line with the Action 13 of the National Policy on Biological Diversity 2022-2030, together with the United Nation's Sustainable Development Goals 2030 and Convention on Biological Diversity, the IAS pathway and priority species must be identified and control measures must be executed.

## 1 RISK ASSESSMENTS

FISHERIES	MARINE	DISEASE
1. World distribution 2. Local distribution 3. Climatic Tolerance (in Malaysia) 4. Detectability 5. Potential of Introduction 6. Potential of Spread 7. Economic impact (-) 8. Economic impact (+) 9. Control Measures 10. Environmental impact 11. Impact on Human Health 12. Heritage/Infrastructure damage 13. Reproductive performance 14. Prey / Host Range 15. Predator Range Life cycle 16. Competition with Native Species 17. Control Measures 18. Environmental impact 19. Heredity/ Structural Damage (NEW)	1. World distribution 2. Local distribution 3. Climatic Tolerance (in Malaysia) 4. Detectability 5. Potential of Introduction 6. Potential of Spread 7. Economic impact (-) 8. Economic impact (+) 9. Control Measures 10. Environmental impact 11. Impact on Human Health 12. Heritage/Infrastructure damage 13. Reproductive performance 14. Prey / Host Range 15. Predator Range Life cycle 16. Competition with Native Species 17. Control Measures 18. Environmental impact 19. Heredity/ Structural Damage (NEW)	1. GISD/ OIE (NEW) 2. World distribution 3. Local distribution 4. Climatic Tolerance (in Malaysia) 5. Detectability 6. Potential of Introduction 7. Potential of Spread 8. Potential of Spread 9. Economic impact (-) 10. Economic Value of Species 11. Impact on Human Health 12. Heritage/Infrastructure damage 13. Reproductive performance 14. Prey / Host Range 15. Predator Range Life cycle 16. Competition with Native Species 17. Control Measures 18. Environmental impact 19. Heredity/ Structural Damage (NEW)

## 2 PRIORITY SPECIES



FISHERIES		MARINE		DISEASES			
Name	Scientific Name	Rank	Common Name	Scientific Name	Rank	Common Name	Scientific Name / Pathogen
Red Swamp Crayfish	<i>Procambarus clarkii</i>			<i>Alexandrium tamarense</i> (Lebour, 1925) Balech, 1995	1	Red seabream iridoviral disease	<i>Red seabream iridovirus</i>
Midas Cichlid	<i>Ampilophus</i> spp.			<i>Alexandrium minutum</i> Halim, 1960	2	Yellow head virus genotype 1 disease	<i>Yellow head virus genotype 1</i>
Amazon Redtail Catfish	<i>Phractocephalus hemiliopterus</i>	1	Dinoflagellates (Harmful Algal Bloom, HAB)	<i>Alexandrium tamivavanichu</i> Balech, 1994	3	Infection with Infectious Spleen and Kidney Necrosis Virus (ISKNV)	<i>Megalocytivirus</i>
Earth-eater	<i>Geophagus surinamensis</i>			<i>Pyrodinium bahamense</i> var. <i>compressum</i>	4	Viral nervous necrosis (VNN)	<i>Betanodavirus</i>
Redclaw Crayfish	<i>Cherax quadricarinatus</i>			<i>Cochlodinium polykrikoides</i>	5	Infection with <i>Perkinsus olseni</i>	<i>Perkinsus olseni</i>
Peacock Bass	<i>Cichla</i> spp.			<i>Gymnodinium catenatum</i>	6	Edwardsiellosis	<i>Edwardsiella tarda</i>
Zebra Tilapia	<i>Heterotilapia buttkoferi</i>	2	Snowflake coral	<i>Karlodinium australe</i>	7	Hepatopancreatic microsporidiosis (HPM)	<i>Enterocytozoon hepatopenaei</i>
Asian Redtail Catfish	<i>Hemibagrus wyckoides</i>	3	Pacific Oyster	<i>Carllopa risel</i>			
African Catfish	<i>Clarias gariepinus</i>	4	Freshwater Hydroids	<i>Crassostrea gigas</i>			
Black Tilapia	<i>Oreochromis mossambicus</i> <i>Oreochromis niloticus</i>	5	Sea anemone	<i>Cordylphora caspia</i>			
		6	Hair algae	<i>Diadumene lineata</i>			
		7	Bushy bryozoan	<i>Bryopsis penns</i>			
		8	Charru mussel	<i>Amathia dista</i>			
		9	Elkhorn sea moss	<i>Mvtella charru</i>			
		10	Black striped mussel	<i>Kappaphycus alve</i>			
				<i>Mytilopsis sal</i>			

ORIGINAL ARTICLE

Extraction and Characterisation of Suckermouth Catfish Collagen

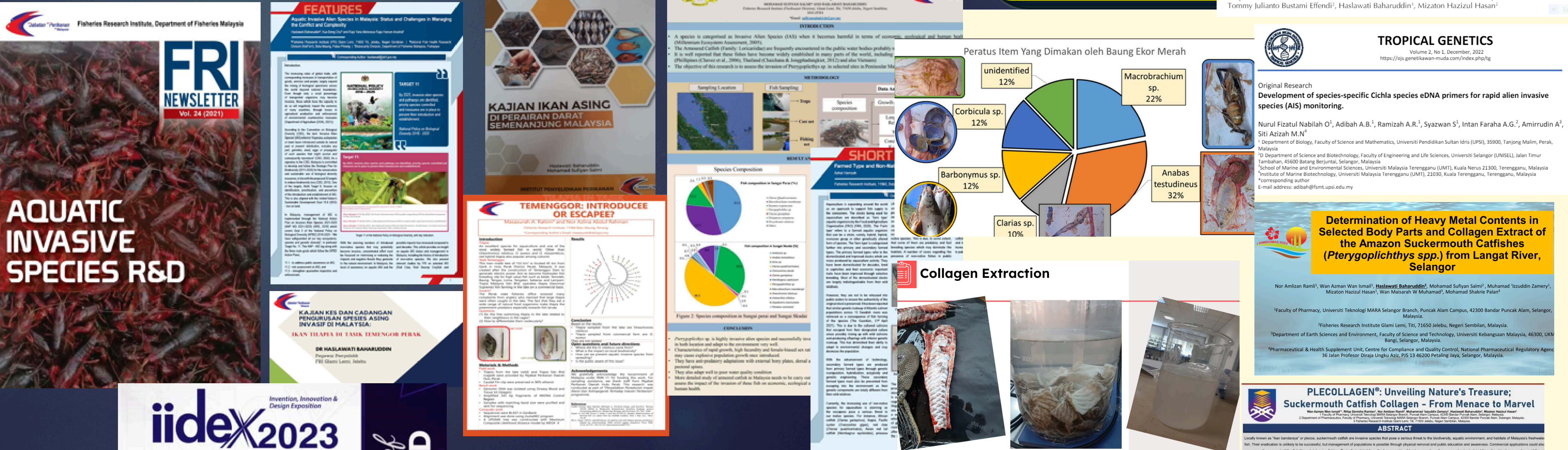
Rifqa Danisha Ramlan<sup>1</sup>, Wan Azman Wan Ismail<sup>2</sup>, Muhammad 'Izzuddin Zamery<sup>3</sup>, Nor Amliyan Ramli<sup>4</sup>

Abstract assessment on the invasion and impacts of the Suckermouth suckered Catfish *Pterygoplichthys* (Siluriformes: Loricariidae) in Peninsular Malaysia

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## RESEARCH

## 3



## INNOVATION

## 4

## PUBLIC ENGAGEMENT & CEPA

## 5

