



2023 ASFA Advisory Board Meeting

Bangkok, Thailand

3–6 October 2023

ASFA/2023/17

Asia & Pacific regional compendium 2022

2022 Compendium of ASFA Asia and Pacific Regional Network

Contents

| | |
|---|----------|
| Overview | 1 |
| Directory | 3 |
| Target areas for improvement | 4 |
| Bibliography | 5 |
| SEAFDEC/AQD | 5 |
| WorldFish | 5 |
| China | 6 |
| India | 7 |
| Indonesia..... | 8 |
| Iran | 9 |
| Japan | 10 |
| Malaysia | 11 |
| Philippines..... | 12 |
| Vietnam..... | 13 |

Overview

This compendium presents the activities of the ASFA Asia and Pacific Regional Network in 2022 showcasing the efforts of ASFA partners, collaborating centres and associates in the region to share research on aquatic sciences, fisheries and aquaculture. The compendium is presented at the 2023 ASFA Advisory Board meeting in draft format for two purposes: to receive feedback from Advisory Board members and to agree target areas for improvement in the region. Based on feedback from Partners, the compendium can be further developed and presented to an external audience to promote the work of partners in the region to a wider audience.

There are 49 countries (12 are landlocked) in Asia and 15 in the Pacific according to the United Nations, 16 of which are landlocked.

The ASFA partnership in Asia (as of August 2023) includes five international partners, 12 national partners, 16 collaborating centres, and 5 associated institutions.

Of the 38 ASFA centres that made up the ASFA partnership in Asia and Pacific, 22 (58 percent) are registered on OpenASFA. Of these registered users, 17 (2 international partners, 8 national partners,

6 collaborating centres, and 1 associated institution) created records in 2022, either as a regular input or in the framework of the FAO-SEAFDEC project. In 2022, a total of 2 873 records were created as regular input and 1 058 as part of FAO-SEAFDEC project, some selected records for each country are presented below in the form of a bibliography.

Summary of Asia and Pacific Regional Network activities in 2022

- 2 873 records created by ASFA centres in Asia and Pacific region as regular input – this represents the second highest total for ASFA regions (3 669 records created by Europe which was the highest).
- 2 training sessions delivered in 2022 (NIO & CIFT – in February 2022, UMT collaborating centers – in September 2022).
- Focal Point for the region is Daryl Superio. Only three partners are active in Working Groups: the Impact and Strategies Committee – M. Shahrulnizam (UMT); D. Superio (NISU); V. Hau (CIS); ASFA Vocabularies Working Group: D. Superio (NISU); ASFA Software Working Group – D. Superio (NISU).
- FAO-SEAFDEC project aimed at recording research and data from countries in southeast Asia related to the Sustainable Development Goal (SDG) Indicator 14.4.1 – Proportion of fish stocks within biologically sustainable levels, has resulted in 1 058 OpenASFA records created and made available on FAO.org platform as part of the collection “Support to SDG 14.4.1 (Southeast Asia)”. Summary report of the project has been prepared and is currently in print.

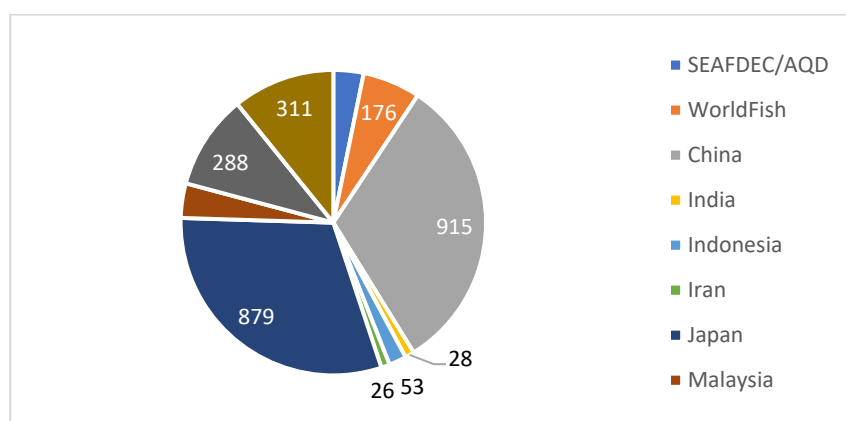


Figure 1 Number of records by ASFA Asia regional network centres in 2022

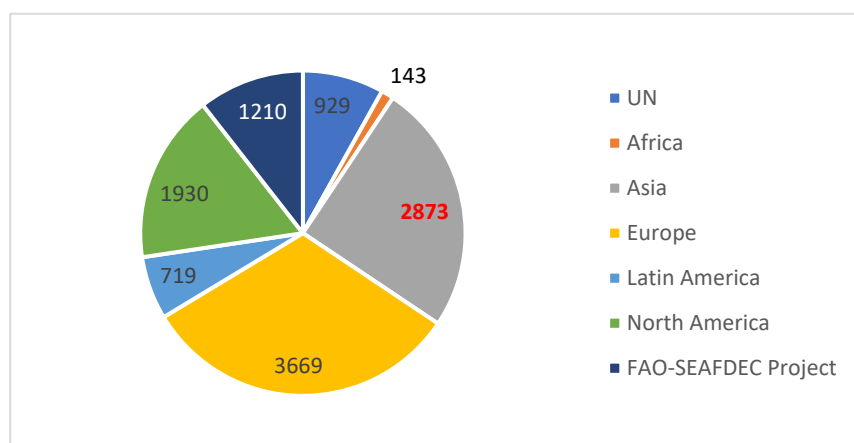


Figure 2 Number of records prepared by ASFA regional groups in 2022

Directory

International partners

- PIMRIS
 - SEAFDEC
 - SPC
 - WCPFC
 - WorldFish (**active in 2022**)
-
- Bangladesh - CVASU
 - China - NMDIS (**active in 2022**)
 - India - CSIR-NIO (**active in 2022**)
 - Indonesia - BRIN (**active in 2022**)
 - Iran – IFSRI (**active in 2022**)
 - Japan - FRA (**active in 2022**)
 - Korea - KIOST
 - Lao - LARReC
 - Malaysia – UMT (**active in 2022**)
 - Philippines -UPV (**active in 2022**)
 - Thailand - Chulalongkorn University
 - Vietnam - DTS (**active in 2022**)

Collaborating Centres

- SEAFDEC/AQD (**active in 2022**)
- India - CIFT (**active in 2022**)
- Indonesia - Research and Development Centre for Limnology, IIS
- Indonesia - Research and Development Centre for Oceanography, IIS
- Iran - Kish International Campus, Tehran University (**active in 2022**)
- Japan - National Fisheries University (NFU)
- Japan - Tokyo University of Marine Science and Technology (TUMST)
- Malaysia - Universiti Malaya (**active in 2022**)
- Malaysia - Universiti Malaysia Sabah
- Philippines - Aklan State University
- Philippines - Bicol University - Tabaco Campus
- Philippines - Bohol Island State University – Candijay Campus
- Philippines - Mindanao State University- Naawan (**active in 2022**)
- Philippines - Pangasinan State University - Binmaley Campus
- Philippines - Samar State University - Mercedes Campus
- Philippines - Western Philippines University (**active in 2022**)

Associated institutions

- India - College of Fisheries,
Lembucherra
- India – CMFRI
- Samoa – SPREP
- Solomon Islands – FFA

Target areas for improvement

The below table presents the areas targeted for improvement by the Asia and Pacific Regional Network in 2024. Focal points will be charged with delivering these improvements with success measured against the corresponding metrics. During the 2023 ASFA Advisory Board Meeting, we ask that the table is discussed, finalized and endorsed by the board.

| Target Area | Description and steps to achieve improvement (to be agreed during 2023 ASFA ABM) | Success metric |
|---|---|--|
| Increase number of active partners | <p>There are a number of inactive ASFA partners in the region (17 of 38 partners are inactive). What can be done to encourage inactive partners to resume input?</p> <ul style="list-style-type: none"> Regional training sessions? Would delivering these by the focal points help? Assistance from the Secretariat in form of training materials and guidelines? More recognition for active partners? Would a target list of new institutions to invite to participate in ASFA help? | <p>What is a realistic target to increase the number of active partners to? 25? Should a target for recruiting new institutions also be set?</p> |
| Increase number of records | <p>Asia and Pacific was previously the most active region however number of records has remained stable/ shown signs of decreasing. How can this be improved?</p> <ul style="list-style-type: none"> Harvesting from repositories? (please suggest repositories which OpenASFA could harvest from) Rewarding institutions who contribute high levels of input? | <p>3 800 records created in 2024 2 repositories harvested from Asia and Pacific region</p> |
| Support aquatic science project in the region | <p>Having recently completed the FAO-SEAFDEC project, the Asia and Pacific region is well placed to identify similar projects in the future.</p> <ul style="list-style-type: none"> What work is your institutions undertaking and could ASFA play a supporting role? What are the information needs in the region and how could ASFA meet them? What sources of funding could there be for such a project? | <p>Identification of a project to support in 2025</p> |
| Improve geographic balance in the region | <p>The Pacific region is underrepresented in ASFA in terms of active partners. What can be done to improve this?</p> <ul style="list-style-type: none"> List of potential partners from Pacific region? Are there events or outreach opportunities where ASFA could be promoted? | <p>2 new institutions from Pacific region join ASFA</p> |

Bibliography

The below presents a very small selection of references prepared by International and National partners in the region. Based on feedback from these centres, the bibliography can be improved to focus on a particular topic or date range and then published to promote the work of partners.

SEAFDEC/AQD

Quinitio, Emilia T. & Parado-Esteba, Fe D. 2008. Biology and hatchery of mud crabs *Scylla* spp. *SEAFDEC/AQD Aquaculture extension manual*, 34, 44 p. <http://hdl.handle.net/10862/3104>

Cuvin-Aralar, M.L., Aya, F.A., Romana-Eguia, M.R.R., & Logronio, D.J. 2019. Nursery culture of tropical anguillid eels in the Philippines. *SEAFDEC/AQD Aquaculture extension manual*, 65, 38 p. <http://hdl.handle.net/10862/3444>

Coniza, E.B., Catacutan, M.R., & Tan-Fermin, J.D. 2008. Grow-out culture of the Asian catfish *Clarias macrocephalus* (Gunther). *SEAFDEC/AQD Aquaculture extension manual*, 41, 27 p. <http://hdl.handle.net/10862/2403>

Kungvankij, P., Tiro Jr., L.B., Pudadera Jr., B.J., et al. 1989. A prototype warm water shrimp hatchery. *SEAFDEC/AQD Aquaculture extension manual*, 12, 32 p. <http://hdl.handle.net/10862/2400>

Thach, N.C. 2009. Seed production and grow-out of mud crab (*Scylla paramamosain*) in Vietnam. *SEAFDEC/AQD Aquaculture extension manual*, 42, 24 p. <https://repository.seafdec.org.ph/handle/10862/2151>

Eguia, R.V. & Romana-Eguia, M.R.R. 2004. Tilapia farming in cages and ponds. *SEAFDEC/AQD Aquaculture extension manual*, 36, 40 p. <http://hdl.handle.net/10862/2401>

SEAFDEC/AQD. 1984. A guide to prawn hatchery design and operation. *Aquaculture extension manual*, 9, 41 p. <http://hdl.handle.net/10862/6021>

Parado-Esteba, Fe D., Quinitio, E.T., & Borlongan, E. 1996. Prawn hatchery operations. *Aquaculture extension manual*, 19, 45 p. <http://hdl.handle.net/10862/65>

Billy, A.N., Rahman, R.A., Omar, N.Z.N., & Azmi, M.S. 2022. Estimating the age of *Euthynnus affinis* through hard part analysis. *SEAFDEC newsletter*, 45(2), 10-11. <http://hdl.handle.net/20.500.12066/7097>

Weerawat, P. 2022. Fostering Ecosystem Approach to Fisheries Management in the Southeast Asian Region through SEAFDEC, *Fish for the People*, 20(2), 14-22. <http://hdl.handle.net/20.500.12066/7123>

WorldFish

Ganguly, S., Druzca, K., Esayas, B., & Bikketi, E. 2021. Affordable local ingredients for fish feeds in low-income contexts: A social and gender risk and opportunity analysis. *WorldFish working paper*, FISH-2021-22. 42 p. <https://hdl.handle.net/20.500.12348/5102>

Cole, S.M., Barker-Perez, E., Rajaratnam, S., et al. 2022. Changes in intra-household decision-making powers: Effects of a gender transformative approach in saving groups in the Barotse Floodplain, Zambia. *WorldFish working paper*, 31 p. <https://hdl.handle.net/20.500.12348/5103>

Rizaldo, Q., Siamudaala, V., Akester, M.J., & NKole, V. 2022. *Nutrient-rich small fish production, processing and marketing in Myanmar and Zambia (SPM)*. Fact Sheet: 2022-06. Penang: WorldFish. 2 p. <https://hdl.handle.net/20.500.12348/5119>

Rajts, F., Belton, B., & Thilsted, S.H. 2022. *Selection of small indigenous fish for breeding trials in the states of Assam and Odisha in India*. Program Report: 2022-04. Penang: WorldFish. 30 p. <https://hdl.handle.net/20.500.12348/5128>

Rajts, F., Belton, B., & Thilsted, S.H. *Guidelines for setting up breeding experiments for small indigenous species (SIS)*. Program Report: 2022-03. Penang: WorldFish. 53 p. <https://hdl.handle.net/20.500.12348/5129>

Brouwer, L., McDougall, C., & Adam, R. 2021. *Identifying niches for women's entrepreneurship in aquatic food chains: A methods package*. Penang: WorldFish. 53 p. <https://hdl.handle.net/20.500.12348/5069>

Byrd, K.A., Ene-Obong, H., Tran, N., et al. 2021. Fish consumption patterns and diets of rural and urban Nigerians. WorldFish working paper. Penang: WorldFish. 47 p. <https://hdl.handle.net/20.500.12348/5092>

Nasr-Allah, A. 2021. *M.Advancing Climate Smart Aquaculture Technologies (ACliSAT). A means for poverty reduction and food security*. Penang: WorldFish. 2 p. <https://hdl.handle.net/20.500.12348/5084>

McDougall, C., Choudhury, A., Adam, R. 2022. *Gender Transformative Approaches: Transforming food systems to advance equality*. Penang: WorldFish. 2 p. <https://hdl.handle.net/20.500.12348/5087>

Karim, A.T., Baten, M., Sarker, A.K., & Ullah, H. 2021. Suchana: Ending the cycle of undernutrition in Bangladesh. IGA- Aquaculture Tilapia-Carp Polyculture (Mono-sex tilapia dominating). Penang: WorldFish. 4 p. <https://hdl.handle.net/20.500.12348/5096>

China

Chen, Q., Jiang, X., Peng, R., et al. 2021. 四种微藻投喂对三角帆蚌生长、产珠性能、内壳层颜色和微量元素的影响=Effects of four microalgae diets on growth, nutritional composition, pearl producing function, shell nacre color and trace element content of *Hyriopsis cumingii*. *Journal of fisheries of China/Shuichan Xuebao*, 45(6), 899-909.

Chen, G. & Luo, Z. 2021. 水产动物锌营养生理及其与脂类代谢相关研究进展=Nutritional physiology of Zn and its relationship with lipid metabolism for aquatic animals: a review. *Journal of fisheries of China/Shuichan Xuebao*, 45(4), 632-648.

Liu, P., Gu, J., Bi, Y., & Zhou, Z. 2021. 海带雌配子体细菌人工染色体(BAC)文库构建及特异分子标记邻近基因的图位克隆与序列=Construction of a bacterial artificial chromosome (BAC) library of the female gametophytes of *Saccharina japonica* and map cloning and sequencing of genes neighboring with a female-specific marker FRML-1488. *Journal of fisheries of China/Shuichan Xuebao*, 45(5), 5 p.

Li, J., Ma, X., Wu, L., et al. 2021. 锦鲤microRNA-137系统进化、靶基因验证及表达分析=Evolution, target genes certification and expression analysis of microRNA-137 in Japanese ornamental carp(*Cyprinus carpio* var.koi). *Journal of fisheries of China/Shuichan Xuebao*, 45(6), 831-845.

Liu, Y., Cheng, J., & Jia, S. 2021. 东海及黄海南部带鱼的海底水温分布特征及分析方法的优化=Characteristics of submarine water temperature distribution of *Trichiurus haumela* in the East China Sea and Southern Yellow Sea with the improvement of the analysis methods. *Journal of fisheries of China/Shuichan Xuebao*, 45(6), 871-886.

Zhang, J., Li, X., Fan, G., et al. 2022. 南极半岛周边水域南极磷虾渔场特征分析=Characteristics of Antarctic krill fishing ground around Antarctic Peninsula. *Marine fisheries/Haiyang Yuye*, 44(1), 18-30.

Guo, X., Dai, X., Hua, X., et al. 2021. 发酵豆粕部分替代鱼粉后凡纳滨对虾对赖氨酸的需求量=Optimum lysine requirement of juvenile Pacific white shrimp, *Litopenaeus vannamei* when fermented soybean meal partially replacing fish meal in the feed. *Journal of fisheries of China/Shuichan Xuebao*, 45(6), 910-919.

Huang, J., Guo, Y., Du, J., et al. 2021. 弓背青鳉早期胚胎色素细胞发生及相关基因表达规律分析=Development of pigment cells and analysis of the expression of related genes in the early embryo of *Oryzias curvinotus*. *Journal of fisheries of China/Shuichan Xuebao*, 45(12), 1965-1972.

Wang, Y., Li, D., Chen, K., et al. 2021. 实验红鲫线粒体DNA条形码特征分析及应用=Characteristics analysis and application of mitochondrial DNA barcoding in laboratory red crucian carp (*Carassius carassius*, red variety). *Journal of fisheries of China/Shuichan Xuebao*, 45(1), 1-9.

Huang, D., Qin, S., Pu, Y., & Jiao, X. 2020. 单环刺螠育苗养殖及综合利用研究进展=Advances in studies of artificial breeding and culturing techniques and the comprehensive utilization of *Urechis unicinctus*. *Marine sciences/Haiyang Kexue*, 44(12), 123-131.

India

Alfiya, P. V., Murali, S., & Samuel, Manoj P. 2019. Development of an Energy Efficient Portable Convective Fish-Dryer. *Fishery technology. Society of Fisheries Technologists (India)*, 56(1), 74-79. <http://epubs.icar.org.in/ejournal/index.php/FT/article/view/86501/35459>

Kaladharan, P., Sathianandan, T.V., Edison, S.J., et al. 2019. Effects of Basal Application of Mulch and Foliar Spray of *Sargassum wightii* Extract on Certain Vegetable Crops. *Fishery technology. Society of Fisheries Technologists (India)*, 56(1), 74-79. <http://epubs.icar.org.in/ejournal/index.php/FT/article/view/86508/35462>

Sumithra, T.G., Reshma, K.J., Antony, A., et al. 2019. Outlining Metabolic Versatility of a Commercial Waste Composting Consortium in Fish Waste Management. *Fishery technology*.

Society of Fisheries Technologists (India), 56(1), 68-73.

<http://epubs.icar.org.in/ejournal/index.php/FT/article/view/86500/35458>

Sharma, S., Majumdar, R.K., Siddhnath, K., & Parhi, J. 2019. Cryoprotective effect of Carrot (*Daucus carota*) Antifreeze Protein on Surimi from Stripped Catfish (*Pangasianodon hypophthalmus*) (Sauvage, 1878). *Fishery technology. Society of Fisheries Technologists (India)*, 56(1), 49-59. <http://epubs.icar.org.in/ejournal/index.php/FT/article/view/86510/35463>

Parvathy, U., Kumar, K.S., Binsi, P. K., et al. 2019. Effect of Anaesthetics, Temperature and Aeration in Live Transportation of Tilapia (*Oreochromis mossambicus*) (Peters, 1852). *Fishery technology. Society of Fisheries Technologists (India)*, 56(1), 38-43. <http://epubs.icar.org.in/ejournal/index.php/FT/article/view/86496/35454>

Ramachandran, A. & Raymond, A. 2019. Bacterial Pathogens in Seafood – Indian Scenario. *Fishery technology. Society of Fisheries Technologists (India)*, 56(1), 1-22. <http://epubs.icar.org.in/ejournal/index.php/FT/article/view/86492/35450>

Biswas, P., Rawat, P., Jena, A.K., et al. 2019. Effect of L-tryptophan on Growth and Survival of Pabda Fry, *Ompok bimaculatus* (Bloch, 1794). *Fishery technology. Society of Fisheries Technologists (India)*, 56(1), 29-33. <http://epubs.icar.org.in/ejournal/index.php/FT/article/view/86494/35452>

Velmurugan, R., Neethiselvan, N., Sundaramoorthy, B., et al. 2019. Design of a Mini-trawl and its Operational Performance in Thirumoorthy Reservoir, India. *Fishery technology. Society of Fisheries Technologists (India)*, 56(1), 23-28. <http://epubs.icar.org.in/ejournal/index.php/FT/article/view/86493/35451>

Suresh Kumar, K., Sushma K., & Subba Rao, P.V. 2022. Studies on nutritional composition of three colour forms of *Kappaphycus alvarezii* (Doty) Doty. *Indian journal of geo-marine sciences*, 51(1), 18-25. <http://nopr.niscpr.res.in/handle/123456789/59894>

Shanthi, R., Poornima, D., Saravanakumar, A., et al. 2022. Partial pressure of carbon dioxide (pCO₂) and air-water CO₂ exchange in the tropical semidiurnal estuarine system. *Indian journal of geo-marine sciences*, 51(1), 7-17. <http://nopr.niscpr.res.in/handle/123456789/59895>

Indonesia

Ismui, M.I., Mohamat-Yusuff, F., & Joni, A. A. 2020. Health status of blood cockle's *Tegillarca granosa* (Arcidae: Bivalva) from three different farms along the Strait of Malacca. *Marine research in Indonesia*, 45(1), 39-46. <https://doi.org/10.14203/mri.v45i1.571>

Tebaiy, S., Mampioper, D. C., & Batto, M. 2021. The Status of Seagrass Health: Supporting Sustainable Small-Scale Fisheries in Misool Marine Protected Area, Raja Ampat, Indonesia. *Ilmu kelautan/Indonesian journal of marine sciences*, 26(3), 136-146. <https://ejournal.undip.ac.id/index.php/ijms/article/view/39038>

Aisyah, S., Sumantyo, J.T.S., & Pamungkas, A. 2021. A Preliminary Study: Marine Biogeography of Nautilus in the Bangka Belitung Seas, Indonesia. *Ilmu kelautan/Indonesian journal of marine sciences*, 26(3), 147-154. <https://ejournal.undip.ac.id/index.php/ijms/article/view/37007>

Pringgengies, D., Sari, E., & Widianingsih, W. 2021. Exploration of Bioactive Compounds Potency of Extract *Namanereis sp.* (Polychaeta: Annelida) as an Antibacterial Agent Against *Escherichia coli* and *Staphylococcus aureus*. *Ilmu kelautan/Indonesian journal of marine sciences*, 26(3), 182-188. <https://ejournal.undip.ac.id/index.php/ijms/article/view/35695>

Romdon, A., Fadli, M., & Hehuwat, Y. 2019. Spatial distribution of tuna larvae in the Banda sea with relation to its conservation. *Marine research in Indonesia*, 44(2), 82-90. <https://mri.lipi.go.id/index.php/MRI/article/view/558>

Purwanto, P., Sugianto, D. N., Zainuri, M. 2021. Seasonal Variability of Waves Within the Indonesian Seas and Its Relation With the Monsoon Wind. *Ilmu kelautan/Indonesian journal of marine sciences*, 26(3), 189-196. <https://ejournal.undip.ac.id/index.php/ijms/article/view/37481>

Iskandar, M. R. & Surinati, D. 2019. Decadal Mixed Layer Salinity in The Southeastern Indian Ocean. *Marine research in Indonesia*, 44(2), 72-81. <https://mri.lipi.go.id/index.php/MRI/article/view/546>

Rusyiana, R., Lestarini, I. A., & Hamdin, C. D. 2021. Anticoagulant Activity of Mangrove (*Avicennia alba*) Leaves Extract in Vitro. *Ilmu kelautan/Indonesian journal of marine sciences*, 26(2), 110-116. <https://ejournal.undip.ac.id/index.php/ijms/article/view/35990>

Firdaus, M. R., Fitriya, N., & Avianto, P. 2020. Plankton community in the western waters of North-Sumatera during the onset monsoon of Asian winter. *Marine research in Indonesia*, 45(1), 1-12. <https://mri.lipi.go.id/index.php/MRI/article/view/565>

Pambudi, M.R., Sulistiono, S., & Kleinertz, S. 2021. Infection Patterns of Helminth Parasites in Mackerel Tuna (*Euthynnus affinis* Cantor, 1849) from Banten Waters, Indonesia. *Ilmu kelautan/Indonesian journal of marine sciences*, 26(2), 117-124.

Iran

Najjar Lashgari, S., Sepahdari, A., & Babaalian Amiri, A.R. 2021. Evaluation of environmental and management risk factors effective in the occurrence of certain viral diseases in the production center of SFP rainbow trout in the Iran, 1(1), 41-51. <http://injr.com/article-1-30-en.html>

Jafari Kenari, S.S., Ghorbani, R., Rezaei, H.R., et al. 2022. Identification of Caspian salmon (*Salmo caspius* (Kessleri, 1877) and rainbow trout (*Onchorhynchus mykiss* (Walbaum 1792) escaping from breeding cages using Cyt b gene sequencing in the southern Caspian basin. *Journal of Utilization and Cultivation of Aquatics*, 11(1), 1-16. https://japu.gau.ac.ir/article_5974_a8c1022538d620054b076a4cace4e9db.pdf?lang=en

Sharbaty, S. 2022. Two Dimensional Simulation of Temperature and Salinity in the Gorgan Bay in During 2010-2011. *Journal of Utilization and Cultivation of Aquatics*, 11(1), 32-44. https://japu.gau.ac.ir/article_5976.html

Rigi, M., Ojagh, S.M., Alishahi, A., & Hasani, S. 2022. Extraction of phycocyanin from spirulina microalgae and evaluation of the stability of nanoliposomes incorporated with pigment against environmental conditions. *Journal of Utilization and Cultivation of Aquatics*, 11(1), 18-30. https://japu.gau.ac.ir/article_5975.html

Neissi, A., Rafiee, G., & Hoseini, G.H. 2022. The effect of microbiome containing *Nitrosomonas oligotropha* and *Nitrobacter winogradskyi* bacteria on the breeding of rainbow trout (*Onchorhynchus mykiss*). *Journal of Utilization and Cultivation of Aquatics*, 11(1), 81-95. https://japu.gau.ac.ir/article_5946.html

Younes, R., Rezaie, M., Hosseini, S.F., & Pezeshk, S. 2022. Comparison of antioxidant properties of hydrolyzed protein and peptide fractions prepared from whitefish (*Rutilus frisii kutum*) eggs. *Journal of Utilization and Cultivation of Aquatics*, 11(1), 69-80. https://japu.gau.ac.ir/article_5979.html

Asadi, H., Khoshkholgh, M.R., Allaf Noveirian, H., & Safari, R. 2022. The Possibility of using locusts (*Schistocerca gregaria*) as a protein source in the diet of rainbow trout fingerling (*Oncorhynchus mykiss*): growth performance and blood biochemical parameters. *Journal of Utilization and Cultivation of Aquatics*, 11(1), 57-68. https://japu.gau.ac.ir/article_5978.html

Hoseini, S.M. 2022. The effect of adding thymol to water on thyroid hormones, proteins and plasma enzymes in common carp (*Cyprinus carpio*). *Journal of Utilization and Cultivation of Aquatics*, 11(1), 44-56. https://japu.gau.ac.ir/article_5977.html

Karimian, E., Zakeri, M., Farabi, S.M.V., et al. 2022. The impact of rainbow trout culture in floating cage on structure of phytoplankton community in the Abbas Abad area, southern basin of the Caspian Sea. *Journal of Utilization and Cultivation of Aquatics*, 11(2), 63-85. https://japu.gau.ac.ir/article_6125.html

Saberi, M., Adineh, H., Harsij, M., et al. 2022. Evaluation of chronic and acute hypoxia stress on the immune and antioxidant system of Common carp in biofloc system). *Journal of Utilization and Cultivation of Aquatics*, 11(2), 49-61. https://japu.gau.ac.ir/article_6124.html

Japan

Rumengan, I.F.M., & Ohji, M. 2012. Ecotoxicological risk of organotin compounds on zooplankton community=動物プランクトン群に対する有機スズ化合物の生態毒性リス. *Coastal marine science*, 35(1), 129-135. <https://repository.dl.itc.u-tokyo.ac.jp/records/40654>

Japar Sidik, B., Harah Muta, Z., & Kawaguchi, S. 2012. Historical review of seagrass research in Malaysia before 2001= 2001年以前のマレーシアにおける海草研究の歴史的総説. *Coastal marine science*, 35(1), 157-168. <https://repository.dl.itc.u-tokyo.ac.jp/records/40658>

Le, Q.-D., Nguyen, D.C., & Nguyen, D.T. 2012. Trace metal contents of tropical anguillid eels in Vietnam=ベトナムの熱帯性ウナギ属ウナギの微量金属の含量. *Coastal marine science*, 35(1), 136-141. <https://repository.dl.itc.u-tokyo.ac.jp/records/40655>

Ohta, H., Takada, T., Fukui, R., et al. 2021. Vibration characteristics of oil whirl in kind of self excited vibration generated in sliding bearing=滑り軸受に発生する自励振動オイルホワールの振動特性. *Journal of National Fisheries University (Japan)*, 70(2), 45-54. https://www.fish-u.ac.jp/kenkyu/sangakukou/kenkyuhoukoku/70/02_1.pdf

Kounthongbang, A., Souliyamath, P., Chanthasone, P., et al. 2021. Daytime habitat use and abundance of a freshwater shrimp *Macrobrachium yui* Holthuis, 1950 (Decapoda: Palaemonidae) in tropical forest stream, northern Laos=ラオス北部,熱帯森林河川における淡水エビ *Macrobrachium yui* Holthuis, 1950(十脚目:テナガエビ科)の昼間生息地利用と豊度. *Crustacean research*, 50, 151-163.

https://www.jstage.jst.go.jp/article/crustacea/50/0/50_151/_pdf/-char/ja

Sano, T., Tanaka, Y., Tobiishi, K., et al. 2016. A High Accuracy and Simple Analytical Method for Microcystins Using 15N-labeled Microcystins= 15N標識ミクロシスチンを用いた簡便で高精度なミクロシスチン分析手法. *Journal of Japan Biological Society of Water and Waste*, 52(1), 31-34. https://www.jstage.jst.go.jp/article/jswtb/52/1/52_31/_pdf/-char/en

Sakaguchi, M., Oginome, N., Yamagishi, U., et al. 2021. Extractive Components in the Ordinary and Dark Muscles of Katsuo-bushi Manufactured by Different Processes=異なる工程で造られたかつお節の普通肉および血合肉に含まれるエキス成分. *Journal of the Japanese Society for Food Science and Technology*, 68(1), 38-44.

https://www.jstage.jst.go.jp/article/nskkk/68/1/68_38/_pdf/-char/en

Takagi, M., Imai, Y., & Kawauchi, S. 2021. Characteristic Analysis of Impingement Heat Transfer on Diesel Spray Combustion=ディーゼル噴霧火災の壁面衝突による熱伝達の特性解析. *Papers of National Maritime Research Institute (Japan)*. 21(3), 1-44.

<https://www.nmri.go.jp/src/202103/PNM21210302-00.pdf>

Matsui, S., Shinomoto, K., & Sugimoto, K. 2021. Development of Simplified Formula of Hydrodynamic Force Acting on Ship in Waves -1st report: Restoring Force Coefficient=波浪中船体運動に係る流体力の簡易推定式の開発—その1: 復原力係数—. *Papers of National Maritime Research Institute (Japan)*, 21(3), 45-59.

<https://www.nmri.go.jp/src/202103/PNM21210303-00.pdf>

Fukuda, T. 2014. Education effect of the crab fishing experience=カニ釣り体験の教育的効果について. *Cancer*. 23, 95-97.

https://www.jstage.jst.go.jp/article/cancer/23/0/23_KJ00009497795/_pdf/-char/en

Malaysia

Ishak, S.D. Yusof, Y.A., & Abol, M.A.B. 2021. Different starch sources in extruded diets for the Malaysian mahseer (*Tortambroides*): effects on growth, feed utilisation and tissue histology. *Journal of sustainability science and management*, 16(6), 94-108.

<https://jssm.umt.edu.my/wp-content/uploads/sites/51/2021/08/JSSMV16N6-8.pdf>

Bachok, Z. 2021. Coral reef fish community at Pulau Bidong, Terengganu, South China Sea Legal framework on the conservation issue of Pulau Kukup national park in Johor, Malaysia. *Journal of sustainability science and management*, 16(5), 48-66. <https://jssm.umt.edu.my/wp-content/uploads/sites/51/2021/07/4-JSSMV16N5.pdf>

Mohd Husin, N. 2021. DNA barcoding of endangered giant clams in islands off the east coast of Peninsular Malaysia. *Journal of sustainability science and management*, 16(5), 35-47.

<https://jssm.umt.edu.my/wp-content/uploads/sites/51/2021/07/3-JSSMV16N5.pdf>

Ismail, H., Mohamad Ayob, A.F., & Muslim, A.M. 2021. Convolutional neural network architectures performance evaluation for fish species classification. *Journal of sustainability science and management*, 16(5), 124-139.

<https://jssm.umt.edu.my/wp-content/uploads/sites/51/2021/07/10-JSSMV16N5.pdf>

Abdul Maulud, K.N. 2021. Impact of saltwater intrusion on paddy growth in Kuala Kedah, Malaysia. *Journal of sustainability science and management*, 16(6), 15-30.

<https://jssm.umt.edu.my/wp-content/uploads/sites/51/2021/08/JSSMV16N6-4.pdf>

Yusuf, N. 2021. Effects of water deficit on the growth and chlorophyll content of capsicum frutescens. *Journal of sustainability science and management*, 16(6), 148-158.

<https://jssm.umt.edu.my/wp-content/uploads/sites/51/2021/08/JSSMV16N6-13.pdf>

Hassan, M. 2021. *Scutogyrus longicornis* Paperna and Thurston, 1969 (Ancyrocephalidae) monogenean gill parasite of cage cultured red tilapia (*Oreochromis Sp.*) from Kenyir Lake, Malaysia. *Journal of sustainability science and management*, 16(6), 159-164.

<https://jssm.umt.edu.my/wp-content/uploads/sites/51/2021/08/JSSMV16N6-14.pdf>

Lola, M.S. 2021. A hybrid logistic regression model with a bootstrap approach to improve the accuracy of the performance of jellyfish collagen data. *Journal of sustainability science and management*, 16(6), 191-203.

<https://jssm.umt.edu.my/wp-content/uploads/sites/51/2021/08/JSSMV16N6-17.pdf>

Jau-Shya, L. 2021. Production of ace-inhibitory and antioxidant hydrolysates from the fillet of hybrid grouper. *Journal of sustainability science and management*, 16(7), 5-19.

<https://jssm.umt.edu.my/wp-content/uploads/sites/51/2021/11/Article-2-JSSM-Volume-16-Number-7-October-2021.pdf>

Traifalgar, R.F.M. 2021. Feed value of fermented copra meal as a sustainable feed ingredient in the diet of saline-tolerant Nile tilapia *Oreochromis niloticus* (Linnaeus 1758). *Journal of sustainability science and management*, 16(8), 28-43.

<https://jssm.umt.edu.my/wp-content/uploads/sites/51/2022/04/3.-FEED-VALUE-OF-FERMENTED-COPRA-MEAL-AS-A-SUSTAINABLE-FEED.pdf>

Philippines

Agbayani, S.B. 1975. *A report on the practice-in-industry training in fish culture*. Thesis (B.Sc.). Iloilo: University of the Philippines Visayas. 57 p.

Aala, J.G.M. 2019. *Screening of green mussel (Perna viridis) extracts for potential antimicrobial properties*. Thesis (B.Sc.). Iloilo: University of the Philippines Visayas. 50 p.

Pitoy, R.B. & Valeriano, A.R. 2019 *Growth rate of (Rhizophora mucronata) bakhaw babae and (Rhizophora apiculata) bakhaw lalaki in Sitio Bad-as, Pinamuk-an, New Washington, Aklan*. Thesis (B.Sc.). Banga: Aklan State University. 29 p.

Reyes, C.B. & Ruance, J.E.C. 2018. *Prevalance of macroparasite in farmed slipper shaped oysters (Crassostrea iredalei) in Lagatik River, New Washington, Aklan*. Thesis (B.Sc.). Banga: Aklan State University. 26 p.

Bune, E.R., Dionisio, B.R., & Pastrana, V.B. 2006. *Milkfish production in brackishwater pond*. Thesis (B.Sc.). Banga: Aklan State University. 40 p.

Panado, L.O. 2019. *Growth rate of piyapi (Avicennia marina) in Philippine National Aquasilviculture Project (PNAP) in Sitio Bad-as, Pinamuk-an, New Washington, Aklan.* Thesis (B.Sc.). Banga: Aklan State University. 27 p.

Espedillon, E.Z. & Retizo, G.G. 2019. *Growth rate of bakhaw babae (Rhizophora mucronata) planted in Bad-as, Pinamuk-an, New Washington, Aklan.* Thesis (B.Sc.). Banga: Aklan State University. 29 p.

Gumban, D.C. 2019. *Growth assessment of bakhaw babae (Rhizophora mucronata) in Guinbaliwan, New Washington, Aklan.* Thesis (B.Sc.). Banga: Aklan State University. 20 p.

de Guzman, A.B. 2004. *A fishery in transition: impact of a community marine reserve on a coastal fishery in Northern Mindanao, Philippines.* Singapore: Economy and Environment Program for Southeast Asia. 59 p. <http://hdl.handle.net/10625/46011>

De Guzman, A.B., Destajo, Warnita H., & Jimenez, Cesaria R. 1996. *Post-resource and ecological assessment monitoring and training project in Panguil Bay.* Marawi: Mindanao State University at Naawan.

Vietnam

Trinh, P.T.H., Duy Ngoc, N.T., Dieu Trang, V.T., et al. 2017. Antimicrobial activity of marine fungi isolated from the Son Tra peninsula, Da Nang, Viet Nam. *Journal of biology (Ha Noi)*, 39(4), 457-462. <https://vjs.ac.vn/index.php/vjbio/article/view/8889/103810381797>

Nhinh, D.T., Hoa, D.T., Trinh, T.T., et al. 2021. Comparison and evaluation of cross-infection possibility of *Edwardsiella ictaluri* isolated from tilapia and channel catfish under the experimental conditions= So sanh va danh gia kha nang nhiem cheo cua vi khuan *Edwardsiella ictaluri* phan lap tu ca ro phi va ca nheo my trong dieu kien thuc Nghiem. *Vietnam Journal of Agricultural Sciences*, 19(5), 605-615. <http://tapchi.vnu.edu.vn/wp-content/uploads/2021/05/tap-chi-so-5.2021-final.4.pdf>

Cuong, D.V., Tinh, N.T.N., Lan, M.T., et al. 2019. Antibacterial activity of cinnamon bark (*Cinnamomum verum*) and ginger (*Zingiber officinale rose*) ethanol extract against *Streptococcus agalactiae* isolated from tilapia fingerlings (*Oreochromis spp.*). *Journal of Mekong fisheries*, 15, 3-14. <https://vienthuysan2.org.vn/index.php/vi/thu-vien/Tap-chi-nghe-ca-song-Cuu-Long/Tap-chi-Nghe-ca-song-Cuu-Long-so-15-2019-181/>

Du, N.N., Vy, T.T., Duy, H.H., et al. 2019. Evaluate variation on composition, density of fish larvae and fingerling in the Mekong river delta (Viet Nam) in 2019= Danh gia bien dong thanh phan loai, mat do ca bot va ca con o dong bang song Cuu Long (Viet Nam) nam 2019. *Journal of Mekong fisheries*, 15, 71-82. <https://vienthuysan2.org.vn/index.php/vi/thu-vien/Tap-chi-nghe-ca-song-Cuu-Long/Tap-chi-Nghe-ca-song-Cuu-Long-so-15-2019-181/>

Anh, N.T.T. 2019. Analysing of upgrading ability to participate in global value chain of Vietnamese shrimp export companies= Phan tich kha nang nang cap de tham gia chuoi gia tri toan cau cua cac doanh nghiep xuất khẩu tôm Việt Nam. *Science and technology journal of agriculture and rural development*, 8, 3-10.

Lam, P.T. & Phung, N.V. 2019. Analysis of technical efficiency of intensive white-leg shrimp farming in Mekong delta=Phan tich hieu qua ky thuat cua mo hinh nuoi tom the chan trang tham canh tai dong bang song Cuu Long. *Journal of Mekong fisheries*, 15, 43-56.

Du, N.N. & Huy, H.H. 2019. Applications of GIS to display distribution, fluctuation on species composition and fish catch in the Mekong delta during the periods of 2017–2019=Ung

dung GIS the hien su phan bo, bien dong thanh phan loai va san luong khai thac ca vung dong bang song Cuu Long giai doan 2017-2019. *Journal of Mekong fisheries*, 15, 88-93.

<https://vienthuysan2.org.vn/index.php/vi/thu-vien/Tap-chi-nghe-ca-song-Cuu-Long/Tap-chi-Nghe-ca-song-Cuu-Long-so-15-2019-181/>

Du, N.N. 2019 A review of columnaris disease on freshwater fish= Tong quan ve benh columnaris tren ca nuoc ngot. *Journal of Mekong fisheries*, 15, 24-33.

<https://vienthuysan2.org.vn/index.php/vi/thu-vien/Tap-chi-nghe-ca-song-Cuu-Long/Tap-chi-Nghe-ca-song-Cuu-Long-so-15-2019-181/>

Hoang, L., Trinh, T.T.L., Nhu, V.T.Q., et al. 2019. Characteristics of fatty acid composition of several lipid ingredients and tra cat-fish (*Pangasianodon hypophthalmus*) at different developmental stages = Dac diem thanh phan acid beo cua mot so nguyen lieu giau chat beo va phi le ca tra (*Pangasianodon hypophthalmus*) o cac giai doan phat trien. *Journal of Mekong fisheries*, 14, 53-63. <https://vienthuysan2.org.vn/index.php/vi/thu-vien/Tap-chi-nghe-ca-song-Cuu-Long/Tap-chi-Nghe-ca-song-Cuu-Long-so-14-2019-179/>

Loc, N.H. & Phuoc, L.H. 2019. The prevalence of white spot syndrome virus (WSSV), *Vibrio parahaemolyticus* and *Enterocytozoon hepatopenaei* in postlarvae and grow-out brackish-water shrimps in the Mekong delta= Su hien dien cua white spot syndrome virus, *Vibrio parahaemolyticus* va *Enterocytozoon hepatopenaei* tren tom giong va tom nuoi nuoc lo dong bang song Cuu Long. *Journal of Mekong fisheries*, 15, 15-23.

<https://vienthuysan2.org.vn/index.php/vi/thu-vien/Tap-chi-nghe-ca-song-Cuu-Long/Tap-chi-Nghe-ca-song-Cuu-Long-so-15-2019-181/>