

## ***Unit Name***

Macroevolution Unit  
Assistant Professor Lauren C Sallan

## ***Collaborations***

Daniel Rokhsar, OIST, Japan, The origin of a phenotypic mutant in an otherwise static lineage  
Arjan Mann, Field Museum of Natural History, USA, The Hydrodynamics of Iniopterygian Sharks  
Ray Sallan, OIST, Japan, Tooth replacement in fishes  
Jaime Villafana, Universidad Austral de Chile, Chile, The Record of Neogene Fishes in Japan  
Marco Rosti, OIST, Japan, The Hydrodynamics of Early Fishes  
Alan Pradel, Museum National d'Histoire Naturelle, France, The functional morphology of Sacabambaspis  
Stephen McCormick, University of Massachusetts, USA, The evolution of salinity tolerance in fishes  
Andrew Whitehead, UC Davis Bodega Marine Station, USA, The evolution of salinity tolerance in fishes  
Mark Meekan, KAUST, Saudi Arabia, The Evolution of Giant Filter Feeders  
Michael Alfaro, UCLA, USA, The evolution of coloration in fishes  
Ulf Dieckmann, OIST, Japan, Modeling Macroevolutionary Phenomena  
Daniel Pauly, University of British Columbia, Canada, Growth Patterns in Extinct Fishes  
Lily Hughes, North Carolina Museum of Natural Sciences, USA, Connectivity in Okinawa Fish Populations  
Matt Pennell, University of Southern California, USA, Models of Evolutionary Development  
Hiroshi Ito, SOKENDAI, Japan, Ecologically-driven evolutionary stasis  
Ivan Sansom, University of Birmingham, UK, Form and function in early vertebrates

## ***Research Personnel***

Chloe Nash, Postdoctoral Scholar  
Samuel Coatham, Postdoctoral Scholar  
Daohan Jiang, Postdoctoral Scholar  
Harutaka Hata, Staff Scientist  
Nanako Okabe, PhD Student  
Jamie Morgan Suesser, Research Intern  
Roger Martin Wilder, Research Intern  
Akimi Sugiyama, Research Intern  
Marcus Tabors Bartholomew, Research Intern  
Daichi Oyama, Research Intern  
Hana Yuki, Research Intern  
Leighna Amelie Sugimoto, Research Intern

Ariadokht Eva Ezaz Nikpay, Research Intern

Tensei Kono, Research Intern

Mia Patricia Balis, Research Intern

Solene Bourdas, Research Intern

Rosamari Orduna, Visiting Research Student

## ***Scholarly Contributions and Creative Productions (by Faculty)***

### ***Journal Article***

1. Hagiwara, W.; Sallan, L.  
Mass Extinction Triggered the Early Radiations of Jawed Vertebrates and Their Jawless Relatives (Gnathostomes). *Science Advances* 2026, 12, eaeb2297.
2. Hata, H.; Lavoué, S.; Sallan, L.  
Taxonomic Status of Nominal Species of the Genus *Pellona* Previously Regarded as Synonyms of *Pellona Ditchela Valenciennes, 1847* (Teleostei: Clupeiformes: Pristigasteridae). *Ichthyology & Herpetology* 2026, 114, 1.
3. Hata, H.; Sallan, L.; Motomura, H.  
*Stolephorus Falco* Sp. Nov. (Teleostei, Clupeiformes, Engraulidae), a New Anchovy from Sumatra, Indonesia. *ZooKeys* 2026, 1270, 255–268.
4. Jiang, D.; Pennell, M.; Sallan, L.  
A General Evolutionary Model for the Emergence of Novel Characters from Serial Homologs. *bioRxiv* 2026, 2025.03.27.645690v3
5. Hata, H.; Wibowo, K.; Lavoué, S.; Sallan, L.  
Redescription and Distributional Range Extension of a Poorly Known Long-Fin Herring *Pellona Dayi Wongratana 1983* (Teleostei: Clupeiformes: Pristigasteridae). *Ichthyological Research* 2026.
6. Hata, H.; Motomura, H.; Ho, H.-C.; Sallan, L.  
*Stolephorus Rex* (Teleostei: Clupeiformes: Engraulidae): First and Northernmost Records from Taiwan. *Natural History Bulletin of the Siam Society* 2025.
7. Adiwara, H.; Yasunaka, S.; Kass, J.; Sallan, L.; Suga, T.  
Pathways to an Integrated Understanding of Marine Environments and Ecosystems in the Asia-Pacific Region. *Frontiers in Marine Science* 2025, 12.
8. Hata, H.; Ho, H.-C.; Sallan, L. C.  
First Specimen-Based Taiwanese Records of *Dussumieria Hasseltii* (Clupeiformes: Dussumieriidae) from Pingtung. *Acta Ichthyologica et Piscatoria* 2025.
9. Hata, H.; Ho, H.-C.; Sallan, L. C.  
First Records of the Kelee Shad *Hilsa Kelee* (Cuvier, 1829) (Clupeiformes, Dorosomatidae) from the Main Island of Taiwan, South China Sea. *Check List* 2025.
10. Hata, H.; Lavoué, S.; Sallan, L.  
Redescriptions of *Ilisha Melastoma* (Bloch & Schneider, 1801) and *Ilisha Brachysoma* (Bleeker, 1852), Two Valid Species of *Ilishas* (Clupeiformes: Pristigasteridae). *Raffles Bulletin of Zoology* 2025.
11. Jiang, D.; Pennell, M.; Sallan, L. Phenotypic plasticity determines the predictability of molecular convergence. *bioRxiv* 2026.03.04.709483v1

### ***Poster Presentation at Conference***

1. Kubo, T.; Wibisana, J.; Sallan, R.; Sallan, L. C.

基盤的条鰭類 Polypterus の給餌実験による歯牙マイクロウェア形成要因の推定. Paleontological Society of Japan 2025.

### **Presentation at Conference**

1. Nash, C.; Sallan, L. C., Westneat, M.  
Rethinking Biogeography with Composition in Widespread Marine Fishes. Standalone Meeting of the Society of Systematic Biologists 2026.
2. Orduna, R.; Nash, C.; Sallan, L. C.; Alfaro, M.  
Beyond the Surface: Spectral Signatures and Pigment Microstructures Offer Insights on Color Diversity of Okinawa Reef Fish. Indo-Pacific Fish Conference 2025 2025.
3. Hata, H.; Lavoue, S.; Pogonoski, J.; Ray, J. T.; Sallan, L. C.  
Taxonomic Revision of the Species Pellona (Clupeiformes: Pristigasteridae) in the Indo-Pacific. Indo-Pacific Fish Conference 2025 2025.
4. Nash, C.; Yuki, H.; Bartholomew, M.; Yap, N.; Sallan, L. C.  
The Other Blue Zone: Trait Diversity and Phylogeography of Coral Reef Fishes across Okinawa, Japan. Indo-Pacific Fish Conference 2025 2025.
5. Asmat, A.; Kim, J.; Okabe, N.; Sansom, I.; Sallan, L. C.  
A Morphospace for All Fishes: Ecomorphological Traits Date the Assembly of Modern Fish Form Diversity to the Paleozoic. Indo-Pacific Fish Conference 2025.
6. Jiang, D.; Pennell, M.; Sallan, L. C.  
A General Evolutionary Model for the Emergence of Novel Characters from Serial Homologs. Evolution 2025 2025.
7. Hata, H.; Sallan, L. C.  
Current Situation of Taxonomy of Anchovies in the Ryukyu Archipelago (Teleostei: Clupeiformes: Engraulidae) . 10th Okinawa Marine Science Workshop. 2025.
8. Hata, H.; Sallan, L. C.  
Assessment of the Applicable Scientific Name for “Mizusururu” (Teleostei: Clupeiformes: Engraulidae) . 2025 Annual Meeting of Ichthyological Society in Japan 2025.
9. Hata, H.; Sallan, L. C.  
Resurrection and Redescription of Nominal Species Previously Regarded as Synonyms of Ilisha Megaloptera (Swainson, 1839) (Teleostei: Clupeiformes: Pristigasteridae) . Annual Meeting of American Society of Ichthyologists and Herpetologists 2025 2025.
10. Okabe, N.; Sallan, L. C.  
Ontogeny and Population Structure of the Early Jawless Fish Protaspis (Heterostracan) from the Devonian Period. 4th Crossing the Paleontological-Ecological Gap (CPEG) Meeting & 3rd Conservation Paleobiology Symposium 2025.
11. Asmat, A.; Kim, J.; Sallan, L. C.  
A Morphospace for All Fishes: Ecomorphological Traits Date the Assembly of Modern Fish Form Diversity to the Paleozoic. FishBase Symposium 2025.

### **Scholarly Contributions (by Unit Members)**

| Name of Unit Member | Type         | Title  | Outlet  | Publisher  | Year Pub |
|---------------------|--------------|--|---|------------|----------|
| Harutaka Hata       | Book Chapter | Malakichthyidae, Labridae, Balistidae, Pomacentridae, etc. | Fishes of Japan with pictorial keys to the species, 4th edition | Shogakukan |          |

| Name of Unit Member | Type            | Title  | Outlet  | Publisher  | Year Pub  |
|---------------------|-----------------|--|---|--|-----------|
| Harutaka Hata       | Book Chapter    | Dussumieriidae, Pristigasteridae, Dorosomatidae, Engraulidae, Chirocentridae, Sphyraenidae   | Marine and estuarine fishes of the Selat Johor, southernmost coast of Peninsular Malaysia | Universiti Putra Malaysia Press and Mie University | 11-Feb-26 |
| Harutaka Hata       | Book Chapter    | Engraulidae, Dussumieriidae, Pristigasteridae, Dorosomatidae, Sphyraenidae   | Marine fishes of the east coast of Peninsular Malaysia                                    | Kagoshima University Museum                        | 31-Jan-26 |
| Harutaka Hata       | Journal Article | Fish types deposited in the Department of Zoology, The University Museum, The University of Tokyo – Part 6: Gobioidae, Scombroidei, Xiphioidei, Channoidei, Pleuronectiformes and Tetraodontiformes  | The University Museum, The University of Tokyo Material Reports                           | The University Museum, The University of Tokyo     | 2025      |
| Harutaka Hata       | Journal Article | Homoploid hybrid speciation in a marine pelagic fish   | Molecular Ecology   | Wiley-Blackwell                                    | 2025      |
| Harutaka Hata       | Journal Article | Records and morphological observations of mugilid fishes, <i>Planiliza</i> cf. <i>subviridis</i> types A and B sensu Yoshigou (2022), from Japan   | Ichthy, Natural History of Fishes of Japan  | Kagoshima University Museum                        | 2025      |
| Harutaka Hata       | Journal Article | Easternmost record of the Gilbert's Hair-fin Anchovy, <i>Setipinna gilberti gilbaeri</i> (Teleostei: Clupeiformes: Engraulidae) from Suruga Bay, Shizuoka Prefecture, Japan  | Bulletin of the Biogeographical Society of Japan  | Biogeographical Society of Japan                   | 2025      |
| Harutaka Hata       | Journal Article | Specimens of the family Mullidae (Actinopterygii: Teleostei) in the reference collection of Phuket Marine Biological Center  | Phuket Marine Biological Center Research Bulletin   | Phuket Marine Biological Center                    | 2025      |
| Harutaka Hata       | Journal Article | A survey of fish fauna in estuary and coastal areas of Samut Songkhram and Petchaburi Provinces, the northwestern Gulf of Thailand   | Thailand Natural History Museum Journal   | Thailand Natural History Museum                    | 2025      |
| Daohan Jiang        | Journal Article | Constraints on the optimization of gene product diversity  | Molecular Systems Biology   | EMBO Press   | 2025      |
| Harutaka Hata       | Journal Article | Taxonomic status of nominal species of the hair-fin anchovy genus <i>Setipinna</i> previously regarded as synonyms of <i>Setipinna tenuifilis</i> (Valenciennes, 1848) and <i>Setipinna paxtoni</i> Wongratana, 1987 (Teleostei: Clupeiformes: Engraulidae: Coiliinae) | Marine Biodiversity   | Senckenberg Nature Research                        | 2025      |
| Harutaka Hata       | Journal Article | Frontline of taxonomy on Clupeiformes  | AquaNet   | Sobunsha   | 2025      |
| Harutaka Hata       | Journal Article | New records of the Saber Anchovy <i>Stolephorus acinaces</i> (Teleostei: Clupeiformes: Engraulidae) from Vietnam   | Vietnam Journal of Marine Science and Technology  | Vietnam Academy of Science and Technology, IO      | 2025      |

| Name of Unit Member | Type                              | Title   | Outlet  | Publisher  | Year Pub  |
|---------------------|-----------------------------------|---|---|--|-----------|
| Daohan Jiang        | Journal Article                   | Alternative mutational architectures producing identical M-matrices can lead to different patterns of evolutionary divergence                         | Genome Biology and Evolution  | Oxford University Press  | 2025      |
| Chloe Nash          | Journal Article                   | Bioregionalization identifies phylogenetic and spatial diversity in a globally distributed clade of coral reef fishes                                 | Systematic Biology  | Oxford Academic  | 28-Feb-26 |
| Harutaka Hata       | Journal Article                   | <i>Thrissina mystica</i> sp. nov., a new thryssa (Teleostei: Clupeiformes: Engraulidae: Coiliinae) from the northern Indian Ocean                     | Ichthyological Research   | Ichthyological Society in Japan  | 2025      |
| Harutaka Hata       | Journal Article                   | A survey of fish fauna in estuary and coastal areas of Samut Songkhram and Petchaburi Provinces, the northwestern Gulf of Thailand                    | Thailand Natural History Museum Journal                                     | Thailand Natural History Museum  | 2025      |
| Harutaka Hata       | Journal Article                   | Specimens of the family Icosteidae (Actinopterygii: Teleostei) deposited in the Department of Zoology, The University Museum, The University of Tokyo | The University Museum, The University of Tokyo Material Reports             | The University Museum, The University of Tokyo                         | 2025      |
| Harutaka Hata       | Poster Presentation at Conference | Assessment of applicable name for the Shorthead Anchovy, “ <i>Encrasicholina pseudoheteroloba</i> ” will be changed, again?                           | IPFC12 Satellite Symposium  | Okinawa Churashima Foundation  | 15-Jun-25 |
| Harutaka Hata       | Presentation at Conference        | Checklist of fishes in the Sagami Bay prior to 1940 based on historical specimens and literature, with a comparison to current ichthyofauna           | 2025 Annual Meeting of Ichthyological Society in Japan                      | Ichthyological Society in Japan  | 23-Nov-25 |
| Harutaka Hata       | Seminars                          | Species identification based on specimens   | Biological Experiments  | University of Ryukyus  | 8-Oct-25  |
| Harutaka Hata       | Seminars                          | Current situation of researches on Clupeiform fishes  | Specieal lecture in National Kaohsiung University of Science and Technology | National Kaohsiung University of Science and Technology (Nanzi Campus) | 2025      |
| Harutaka Hata       | Seminars                          | Current situation of researches on Clupeiform fishes  | Specieal lecture in National Kaohsiung University of Science and Technology | National Kaohsiung University of Science and Technology (Nanzi Campus) | 2025      |
| Daohan Jiang        | Seminars                          | Constraints on the optimization of gene product diversity   | International Young Scholars Forum of Sun Yat-sen University                | Sun Yat-sen University   | 27-Dec-25 |
| Harutaka Hata       | Seminars                          | Current situation of researches on Clupeiform fishes  | From Inland Streams to Sea (FINS): Twin                                     | University of Santo Thomas   | 11-Feb-26 |

| Name of Unit Member | Type     | Title                                     | Outlet  | Publisher  | Year Pub  |
|---------------------|----------|---|---|--|-----------|
|                     |          |   | lectures on fish ecology and systematics                                    | College of Science, Manila, Philippines                                |           |
| Harutaka Hata       | Seminars | How to conduct fish taxonomic research    | Special lecture on biology C  | University of Ryukyus  | 12-May-25 |
| Harutaka Hata       | Seminars | Species identification based on specimens | Biological Experiments  | University of Ryukyus  | 7-May-25  |
| Harutaka Hata       | Seminars | Species identification based on specimens | Biological Experiments  | University of Ryukyus  | 14-May-25 |
| Harutaka Hata       | Seminars | Observation of fish gonads                | Biological Experiments  | University of Ryukyus  | 21-May-25 |
| Harutaka Hata       | Seminars | Observation of fish gonads                | Biological Experiments  | University of Ryukyus  | 28-May-25 |
| Harutaka Hata       | Seminars | Guidence of Biological Experiments        | Biological Experiments  | University of Ryukyus  | 1-Oct-25  |
| Harutaka Hata       | Seminars | Role of specimens and museums             | Specieal lecture in National Kaohsiung University of Science and Technology | National Kaohsiung University of Science and Technology (First Campus) | 2025      |
| Harutaka Hata       | Seminars | How to sketch a fish specimen             | Biological Experiments  | University of Ryukyus  | 10-Dec-25 |
| Harutaka Hata       | Seminars | Observation of fish gonads                | Biological Experiments  | University of Ryukyus  | 7-Jan-25  |

### ***Honors, Awards & Fellowships [By Unit Members Only]***

- Term 1 2025 - Ongoing Nanako Okabe, Student Poster Award, 学生ポスター賞, 2025, 日本古生物学会, 日本古生物学会 第 175 回例会  
[Fiscal Year: 2025-12-06]
- Term 3 2024 - Term 3 2025 Harutaka Hata, Editor's Choice, Editor's Choice, 2025, MDPI, The paper "Hata, H. and Motomura, H. 2023. Description of *Stolephorus horizon* n. sp. from Fiji and Tonga, and redescription of *Stolephorus scitulus* (Fowler, 1911) (Teleostei: Clupeiformes: Engraulidae). *Taxonomy*, 3: 356–380. " was selected as the Editors Choice of the journal  
[Fiscal Year: 2025-01-16]

### ***External Service***

- Term 1 2023 - Ongoing Invited Observer, FishBase Consortium, Observer for 2 years prior to joining as a member [Fiscal Year: 2024]
- Term 3 2022 - Ongoing Associate Editor, Royal Society Publishing, *Proceedings of the Royal Society B*, *Proceedings of the Royal Society B* [Fiscal Year: 2024]

### ***Other Institutional Service***

- Term 2 2025 - Term 2 2025 Feedback for high school students' poster presentations, Nanao High School, (University) [Fiscal Year: 2025-02-13]

Term 2 2025 - Term 2 2025      Feedback for high school students' poster presentations, Tsuyama High School,  
(University) [Fiscal Year: 2025-03-13]

***Outreach Activities [For Unit Members Only]***

Term 2 2025      Nicole Yap, Career Talk , SEED Programme [Fiscal Year: 2025-04-14]