Meghan K. Yap-Chiongco

Ph.D. Candidate

She/Her

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**Education**

2018 – Current Ph.D. Candidate, The University of Alabama

Committee Members: Dr. Kevin Kocot (P.I.), Dr. Michael McKain, Dr. Jane Rasco, Dr. John Yoder and Dr. Andreas Hejnol

**Dissertation:** Utilizing the Shell-less Aplacophorans to Uncover

the Ancestral Molluscan Biomineralization Toolkit

2019 – Current Museum Certificate Program, The University of Alabama

2018 – 2021 M.S. Student in Marine Sciences, The University of Alabama

Committee Members: Dr. Kevin Kocot (P.I.), Dr. Michael McKain, Dr. Jane Rasco

**Thesis:** Small solenogasters, big problems: a phylogenetic analysis of meiofaunal lineages of Solenogastres (Mollusca, Aplacophora)

2015 – 2017 B.S. in Ecology and Evolution, University of California Santa Cruz

Undergraduate Thesis Advisor: Dr. Rita Mehta

**Thesis:** A Phylogenetic Analysis of Amphibious Fishes Within the Perciformes

2013 – 2015 A.A. in Anthropology, Diablo Valley College

**Publications †Authors contributed equally**

1. **Meghan K. Yap-Chiongco**, Stacy Pirro, Rebecca M. Varney, Hiroshi Saito, Kenneth M. Halanych, and Kevin M. Kocot. Two draft genomes of enigmatic Solenogastres (Mollusca, Aplacophora) *Epimenia babai* and *Neomenia megatrapezata*. Manuscript In Reivew. *F1000Research*. 2024.
2. Valero-Gracia, A., Roberts, N. G., **Yap-Chiongco, M.K**., Capucho, A. T., Kocot, K. M., Matschiner, M., & Struck, T. H. (2024). First chromosome-level genome assembly of a ribbon worm from the Hoplonemertea clade, Emplectonema gracile, and its structural annotation. *bioRxiv*, 2024-02.
3. **Yap-Chiongco, M. K.,** Bergmeier, F. S., Roberts, N. G., Jörger, K. M., & Kocot, K. M. (2024). Phylogenomic reconstruction of Solenogastres (Mollusca, Aplacophora) informs hypotheses on body size evolution. *Molecular Phylogenetics and Evolution*, 108029. (https://doi.org/10.1016/j.ympev.2024.108029)
4. Song, H., Wang, Y., Shao, H., Li, Z., Hu, P., **Yap-Chiongco, M. K.,** ... & Kocot, K. M. (2023). Scaphopoda is the sister taxon to Bivalvia: Evidence of ancient incomplete lineage sorting. *Proceedings of the National Academy of Sciences*, *120*(40), e2302361120. (https://doi.org/10.1073/pnas.230236112)
5. Rebecca M. Varney†, **Meghan K. Yap-Chiongco**†, Nina T. Mikkelsen, and Kevin M. Kocot. 2022. Genome of the lepidopleurid chiton *Hanleya hanleyi* (Mollusca, Polyplacophora) [version 1; peer review: 2 approved]. *F1000Research* 2022, **11**:555 (https://doi.org/10.12688/f1000research.121706.1)
6. Timea P. Neusser, Franziska S. Bergmeier, Christina Egger, **Meghan K. Yap-Chiongco**, Kevin M. Kocot, and Katharina M. Joger. 2021. Shallow-Water Interstitial Malacofauna of the Azores. *Açoreana* 17-41
7. Juan C. F. Pardo, Thiago Quintão Araújo, Ana Teresa Capucho, **Meghan K. Yap-Chiongco**, Ariane Buckenmeyer, Ylva Jondelius, Víctor Aramayo, Franziska S. Bergmeier, Luiz F. Andrade, Irina Cherneva, Alexandra Petrunina, Antônio J. M. Peixoto, Anna Mikhlina, Anitha Mary Davidson13, Jan Engelhard; Duarte Frade, Christina Ellison, Nickellaus G. Roberts. 2021. Tiny animals do live in the sand: a report of meiofaunal focused active-learning activities to increase ocean literacy in primary-school children. *Açoreana*
8. Rita Mehta, Kristina Akesson, Erica Redmann, Mica McCarty-Glenn, Rebecca Ortega, Shazrah Syed, **Meghan K. Yap-Chiongco**, Christiane Jacquemetton, and Andrea Ward.2020. Terrestrial locomotion in elongate fishes: Exploring the roles of morphology and substrate in facilitating locomotion. *Journal of Zoology.* DOI 10.111/jzo.12794

**Conference Presentations (\* indicates presenting author)**

1. **Yap-Chiongco M.K.\*** and K.M. Kocot. 2024. How to make a sclerite—Genomic and Developmental Mechanisms of Biomineralization in Solenogastres (Mollusca). (Invited Guest Seminar)No Bones Lunch Seminar, Department of Invertebrate Zoology, National Museum of Natural History
2. **Yap-Chiongco M.K.\*,** K. Stracke, A. Børve, A. Hejnol and K.M. Kocot. 2024. Expression of Five Mineralization Genes in the Shell-less *Wirenia argentea* (Mollusca, Solenogastres) (Talk) Society for Integrative and Comparative Biology, Seattle WA
3. **Yap-Chiongco M.K.\*,** K. Stracke, A. Børve, A. Hejnol and K.M. Kocot. 2023. Mineralization Gene Expression in a Shell-less Mollusc. (Invited Guest Seminar) Department of Biological Sciences Molecular Biology Division, The University of Bergen
4. **Yap-Chiongco M.K.** \* and K.M. Kocot. 2023. Tracing the Evolutionary Origins of Biomineralization: Insights from Two Aplacophoran Genomes (Talk). Annual Meeting of the American Malacological Society, Tuscaloosa AL
5. **Yap-Chiongco M.K.**\*, F.S. Bergemier, Cobo M.C. and K.M. Kocot. 2023. AplacBase: A Digital Database to Make Aplacophora Less Obscure and Difficult (Talk). Annual Meeting of the American Malacological Society, Tuscaloosa AL
6. Hao Song, Yunan Wang, Haojing Shao, Zhuoqing Li, Pinli Hu, **Yap-Chiongco M.K.**, Pu Shi, Tao Zhang, Cui li, Yiguan Wang, Peizhen Ma, Jakob Vinther, Haiyan Wang, and K.M. Kocot\*. 2023. Scaphopoda is the sister taxon to Bivalvia: evidence of ancient incomplete lineage sorting (Talk). Annual Meeting of the American Malacological Society, Tuscaloosa AL
7. F.S. Bergemier, Cobo M.C., S, Gerken, E.L. McLaughlin, C.J. Olson, N.G. Roberts, V. Vandersommen, **Yap-Chiongco M.K.**, and K.M. Kocot\*. 2023. First records of Monoplacophora from the Eastern Antarctic (Poster). Annual Meeting of the American Malacological Society, Tuscaloosa AL
8. **Yap-Chiongco M.K.**\*, Cobo M.C., C. J. Olson, W.J. Farris and K.M. Kocot. 2023. First Records of Epimeniidae (Solenogastres, Aplacophora) from the Arabian Sea (Poster). Annual Meeting of the American Malacological Society, Tuscaloosa AL
9. Cobo M.C.\*, F.S. Bergemier, E.L. McLaughlin, C. J. Olson, N.G. Roberts, W.J. Farris, **Yap-Chiongco M.K.** and K.M. Kocot. 2023. First records of parasitic Nematoda in Solenogastres (Mollusca, Aplacophora): findings of the NBP23-03 “IcyInverts” expedition to the Eastern Antarctic (Poster). Annual Meeting of the American Malacological Society, Tuscaloosa AL
10. E.L. McLaughlin\*, R.A. Batts, J.M. Goble, **Yap-Chiongco M.K.** , Christiane Todt, Cobo M.C., and K.M. Kocot. 2023. A Global DNA Barcode Library for Solenogastres (Mollusca, Aplacophora) (Poster). Annual Meeting of the American Malacological Society, Tuscaloosa AL
11. **Yap-Chiongco M.K.\*,** K. Stracke, A. Børve, A. Hejnol and K.M. Kocot. 2023. Expression Patterns of Five Mineralization Genes in a Shell-less Mollusc (Talk) SupER Bio, Department of Biological Sciences, The University of Alabama
12. **Yap-Chiongco M.K.\*,** K.M. Jörger, K.M Kocot and F.S Bergemier. 2022. Diversity, Distribution and Systematics of Interstitial Solenogastres (Aplacophora, Mollusca). (Talk) 18th International Meiofauna Conference. Virtual
13. **Yap-Chiongco, M.K.\*** and K.M. Kocot. 2022. Genomic Underpinnings of Sclerite Biomineralization in Aplacophoran Molluscs. (Talk) International Conference on Invertebrate Morphology. Vienna, Austria.
14. **Yap-Chiongco, M.K.\*** and K.M. Kocot. 2022. Genomic Insights from the Enigmatic Aplacophora. (Talk) World Congress of Malacology. Munich, Germany
15. Jörger K.M., **M.K. Yap-Chiongco**, K.M. Kocot, and Bergmeier, F.S. 2022. Aloha! First shallow-water Solenogasters from Hawai’i. (Poster) World Congress of Malacology. Munich, Germany
16. **Yap-Chiongco, M.K.\*** and K.M. Kocot. 2022. *De novo* genome assembly of three aplacophoran molluscs to investigate the evolution of biomineralization in Mollusca. (Invited Talk). Senckenberg Biodiversity Genomics Symposium, Virtual Event
17. **Yap-Chiongco, M.K.\*** and K.M. Kocot. 2022. Comparative genome sequencing and assembly of three species of shell-less molluscs (Mollusca, Aplacophora) (Talk and Poster). Southeastern Population Ecology and Evolutionary Genetics, Eatonton, GA.
18. **Yap-Chiongco, M.K.\*** and K.M. Kocot. 2021. Adding small taxa to fill big gaps: a phylogenomic analysis of Solenogastres (Mollusca, Aplacophora) including data from meiofaunal species (Talk). Young Systematists’ Forum (virtual conference)
19. **Yap-Chiongco, M.K.**\* and K.M. Kocot. 2021. Comparative assembly methods to investigate biomineralization in the shell-less Aplacophora (Mollusca) (Talk). Biodiversity Genomics (virtual conference)
20. Cobo M.C.\*, **M.K.** **Yap-Chiongco,** and K.M. Kocot. 2021. Solenogastres (Mollusca, Aplacophora) Diversity in Corsica: Findings of the program “La Planète Revisiteé (Talk). European Congress of Malacological Societies (virtual conference)
21. **Yap-Chiongco M.K.\*,** F.S Bergemier., K.M. Jörgerand K.M Kocot. Small solenogasters causing big problems: molecular data from the family Meiomeniidae (Mollusca, Aplacophora) (Talk). European Congress of Malacological Societies (virtual conference)
22. Bond C.E., **M.K.\* Yap-Chiongco,** R.E. Partain, M.C. Cobo, and K.M. Kocot. 2021. Uncovering the biodiversity of Gymnomeniidae (Mollusca, Aplacophora) in the Norwegian Sea. (Poster) European Congress of Malacological Societies (virtual conference).
23. **Yap-Chiongco, M.K.**\* and K.M. Kocot.2021. Contextualizing the evolution of molluscan shells through aplacophoran genomics. (Talk) 54th Annual Meeting of the Western Society of Malacologists (virtual conference)
24. **Yap-Chiongco\*, M.K.** and K.M. Kocot.2021. Proteomic and developmental studies of aplacophoran sclerites to study the origins of molluscan mineralized structures (Poster) Society for Integrative and Comparative Biology (virtual conference)
25. Bergmeier\* F.S., **M.K. Yap-Chiongco**, M.C. Cobo, N.T. Mikkelsen, K.M. Jörger and K.M. Kocot. 2020. AplacBase: a virtual guide to the diversity and systematics of aplacophoran molluscs (Poster) World Conference on Marine Biodiversity (virtual conference).
26. **Yap-Chiongco\*, M.K.**, F.S. Bergmeier, M.C. Cobo, N.T. Mikkelsen, K.M. Jorger, and K.M. Kocot. 2020. AplacBase: a digital database for Mollusca’s most neglected taxa. (Talk). Molluscan Forum (virtual conference).
27. **Yap-Chiongco\*, M.K.**, R.M. Varney, and K.M. Kocot. 2020. What the Shell-less Aplacophorans can Tell us about Molluscan Biomineralization (Talk). Society for Integrative and Comparative Biology, Austin TX
28. **Yap-Chiongco\*, M.K.**, R.M. Varney, and K.M. Kocot. 2019. Aplacophoran Comparative and Evolutionary Genomics to Study Molluscan Biomineralization (Poster). Southeastern Ecology and Evolution Conference, Auburn AL.
29. R.M. Varney, **M.K. Yap-Chiongco**, N.T. Mikkelsen, S. Pirro, D.I. Speiser, K.M. Kocot\*. 2019. A cost-effective strategy to obtain highly contiguous aculiferan mollusc genomes enables broader investigations of understudied molluscs (Poster). Pearls of Wisdom Molluscan Genomics Conference. London UK
30. **Yap-Chiongco\*, M.K.**, R.M. Varney, and K.M. Kocot. 2019. The Use of Aplacophoran Comparative and Evolutionary Genomics to Study Molluscan Biomineralization (Poster). International Seminar on Mollusc Evolution. Vladivostok, Russia.
31. **Yap-Chiongco\*, M.K.**, R.M. Varney, and K.M. Kocot. 2019. Draft genome of *Neomenia megatrapezata* (Solenogastres) as a tool to study aculiferan sclerite biomineralization (Poster). World Congress of Malacology. Pacific Grove, CA.
32. A.Valenzuela-Toro\*and **M.K. Yap-Chiongco**. 2018. Pinniped Taphonomy: Observations from a Northern Elephant seal breeding colony provide new insights into the taphonomic processes on pinnipeds (Poster). Society for American Archaeology Annual Meeting. Washington D.C.
33. C. Jacquemetton\*, **M.K. Yap-Chiongco**, J.M. Morgia, K.M. Salladay, W.P. Busby, A.B. Ward, R.S. Mehta. 2017. The Effects of Substrate on Terrestrial Kinematics in the Snowflake Moray, *Echidna nebulosi* (Talk). Society for Integrative and Comparative Biology. New Orleans, LA.
34. **M.K. Yap-Chiongco\*** and R.Mooi. 2016. Getting a grip on size, shape, and evolution of ophicephalous pedicellariae in sea urchins (Poster). Society for Integrative and Comparative Biology. Portland, OR

**Funding- Total During Graduate School (excluding fellowship funds): $16,157.42**

2023 Constance Boone Award for Best Student Presentation at the Annual American Malacological Society Meeting ($500)

2023 South East Conference Emerging Scholars Program Fellow Scholarship($15,000) and Research Award ($3,000)

2023 McNair Graduate Fellowship (Tuition Waiver + Stipend; $54,538)

2022 Constance Boone Award for Best Student Presentation at the World Congress of Malacology, Vienna ($500)

2022 Aquatic Biology Enhancement Assistantship (Tuition Waiver + Stipend; $54,538)

2022 Unitas Malacologica Travel Grant (€1,350)

2022 Graduate Student Peer Mentorship Award ($255)

2021 American Malacological Society Richard E. Petit Student Research Award for Revisionary Taxonomy and Systematics of Mollusks ($500)

2021 Award for Graduate Students Performing Research in Marine Sciences ($1000)

2021 Society for Integrated and Comparative Biology Broadening Participation Award ($300)

2020 Summer Institute in Statistical Genetics Scholarship ($900)

2020 Systematics Research Fund (£939)

2020 Bishop-Stackman Marine Science Endowed Scholarship ($500)

2020 Craig T. Sheldon and Elizabeth S. Sheldon Endowed Graduate Scholarship in Museum Studies ($1,200)

2019 Chris Schander Memorial Fund Scholarship (10,000 NOK [1,100 USD])

2019 Charlotte Magnum Housing Award

2019 University of Alabama Department of Biological Sciences Travel Award ($1,600)

2019 American Microscopical Society Microscopy Training Fellowship ($1,000)

2019 University of Alabama Department of Biological Sciences Research Award ($500)

2019 Western Society of Malacology James McLean Student Grant ($750)

2017 Koret Undergraduate Research Scholarship ($1500)

2016 Charlotte Magnum Housing Award

2016 BIO-REU Travel Grant ($1,000)

2015 National Science Foundation REU grant DBI 1358680 -Stipend off of Grant

**Academic Awards**

2023 Constance Boone Award for Best Student Presentation at the Annual American Malacological Society Meeting 2023.

2023 South East Conference Emerging Scholars Program Fellow

2022 Constance Boone Award for Best Student Presentation at the World Congress of Malacology 2022.

2021 University of Alabama 3 Minute Thesis Competition- Finalist

2021 Department of Biological Sciences 3 Minute Thesis Competition- 2nd Place

2019 Southeastern Ecology and Evolution Conference- Best Student Poster

2019 National Science Foundation Graduate Research Fellowship Program (GRFP)- Honorable Mention

**Professional Service**

2023 – Current Councilor-at-Large (Student/Postdoc) American Malacological Society (2023-2024)

2020 – 2023 Graduate student member of the Biological Sciences Diversity, Equity, and Inclusion Committee, University of Alabama.

-Lead organizer of DEI graduate student lead seminar series focusing on accessibility in the Biological Sciences Department for underrepresented minority undergraduate students

-Lead organizer for Biological Sciences DEI Journal Club- focused on readings of DEI issues in biology

-Co-organizer of DEI book club in collaboration with Sarah Hughes Berheim of the Educational Neuroscience department- aimed at bringing discussion of DEI issues to graduate students across departments

2020 – Current Editor and co-creator of AplacBase, a digital database for aplacophoran research https://aplacbase.weebly.com/

2020 – 2021 Co-host of the Yakademia podcast (science outreach podcast) https://open.spotify.com/show/5bcF1ShJQLgExU3ilyw3zp?si=j5rI2278Qv-EjRj-Fw81ZQ

**Outreach**

February 2024 Family Day at the Museum, Alabama Museum of Natural History

April 2022 Bama BugFest, The University of Alabama

March 2022 Student Mentorship Program Mentor- Southeastern Population Ecology and Evolutionary Genetics Meeting

Sept. 2021 Graduate Student Volunteer- Biological Sciences Homecoming tent

Sept. 2021 Office of Life Long Learners- Lecturer

Oct. 2020 Graduate student volunteer Ar-BOO-retum the University of Alabama Arboretum: video and activity creation for virtual outreach for primary school children.

Feb. 2020 Water Quality Test Design and Proctoring, Science Olympiad

Jan. 2020 Skype a Scientist

Nov. 2019 Graduate Student Volunteer, Scientist for a Day program

Nov. 2019 Skype a Scientist

Oct. 2019 Graduate Student Volunteer, Biological Sciences homecoming tent

Oct. 2019 Graduate Student Volunteer, Ar-BOO-retum the University of Alabama Arboretum

July 2019 Meiofaunal outreach event the ExpoLab in Ponta Delgada, Azores. Presented meiofaunal diversity of the Azores to local elementary school children.

Feb. 2019 Biology Station Docent, Night at the Museum community event

Dec. 2018 Graduate Student volunteer, Scientist for a Day program

Oct. 2018 Graduate Student Volunteer, Ar-BOO-retum the University of Alabama Arboretum

Sept. 2018 Graduate student volunteer, Biological Sciences homecoming tent

Feb. 2017 Volunteer Docent, Monterey Bay Sanctuary Marine Exploration Center

**Research Expeditions**

Sept. 2019 Marine Mollusc Diversity and Systematics Sampling, Vladivostok, Russia

Aug. 2019 Dauphin Island Sea Lab Meiofauna Diversity and Taxonomy Workshop

July 2019 Marine Meiofauna Diversity and Taxonomy Workshop, Ponta Delgada Sao Miguel Island

June 2019 Marine Invertebrate Sampling, White Sea Russia

**Relevant Courses**

Fall 2018 Histology of Vertebrates

Introduction to Graduate Studies

Bioinformatics

Spring 2019 Developmental biology

Integrated Genomics

Computational Biology

Fall 2019 Evolutionary Genomics

Spring 2020 Microscopical Techniques

Biogeography

Museum Collections and Management

Summer 2020 Summer Institute for Statistical Genetics (SISG) University of Washington

Spring 2021 Principles of Systematics

Fall 2021 Museum Administration

**Field Courses**

2018 Marine Invertebrate Zoology: Friday Harbor Laboratories, Washington

2019 Embryology of Marine Invertebrates: White Sea Biological Station, Russia

2019 Exploring the Diversity of Marine Meiofauna of the Azores, Meiofaunal workshop:

Ponta Delgada, Azores

2019 Systematics, Morphology and Evolution of Marine Molluscs: Marine Biological Station Vostok, Russia

**Teaching**

Spring 2022 Invertebrate Zoology (BSC 376) The University of Alabama

Spring 2021 Invertebrate Zoology (BSC 376) The University of Alabama

Spring 2020 Laboratory Biology II (BSC 117) The University of Alabama

Fall 2019 Laboratory Biology I (BSC 115) The University of Alabama

Spring 2019 Invertebrate Zoology (BSC 376) The University of Alabama

Fall 2018 Laboratory Biology I (BSC 115) The University of Alabama

**Other Research Experience**

2017 Undergraduate Researcher, University of California, Santa Cruz

Dr. Patrick Robinson, Project Advisor

**Project title:** From Breeding Colonies to Colonies of Bones: An Analysis of theBones at Año Nuevo State Park and its Implications for the interpretations of the Fossil and Archaeological Record of Elephant seals

2015 Summer Systematics REU intern, California Academy of Sciences

Dr. Richard Mooi. Advisor for the REU program

**Project title:** Getting a Grip on Size, Shape, and Evolution of Ophicephalous Pedicellariae in Sea Urchins

**Professional Memberships**

­­American Malacological Society

American Microscopical Society

Global Invertebrate Genome Alliance

Society for Integrative and Comparative Biology

Systematics Association

**Research Exchanges**

University of Bergen – Research stays with Andreas Hejnol; August-November 2022 and 2023

California Academy of Sciences Malacological Collection – December 2018 and August 2019