



# GIGA News Letter (no. 5)

## Summer 2021

### Greetings from the President

We hope that all folks are safe and looking forward to continued vaccinations and re-openings of their respective communities around the world...

In spite of our irregular announcements, GIGA has been busy the first half of 2021. This newsletter hopefully tries to catch the membership up, and you have been also following us on various social media. For example, we are excited to announce new awardees for our GIGA-IGNITE fellowship.

Upcoming events include our second election, and an online GIGA-IV symposium. More details are below.

The current board has found ways to improve the GIGA bylaws or “Constitution”. We will present the proposed amendments before the next meeting, and which must be approved by a majority of the membership for adoption. Regular members can also propose amendments (Please see <https://www.giga-cos.org/wp-content/uploads/2020/10/GIGAConstitution2020.pdf>)

Genomes continue to be sequenced and accessioned at a rapid pace; for this newsletter we highlight the newly reported genome of the Chambered Nautilus, *Nautilus pompilius* (see below)

The Moore/Sanger Institute “Aquatic Genome Project” or ASG continues to build momentum and a concomitant community of eager faculty and students. An overview of the project can be found at this link - <https://www.sanger.ac.uk/collaboration/aquatic-symbiosis-genomics-project/>. There are now 10 official ASG hubs focused on various symbiotic systems and they are each getting 50 macro/micro-symbiont species pairs in order for high quality, whole genome chromosome level sequencing. I am responsible for one hub focused specifically on “photosymbiosis”(PS). A partial list of the host species, and sample custodians is shown below,

which is meant to show intent and avoid duplicative efforts. We thank all of the PS collaborators for all of their hard work in collecting samples, permits etc. Please contact other ASG hub leaders for information on their species lists. Once the genomes are fully sequenced and assembled, they will be published as rapidly as possible as a Wellcome Data Note.

**ASG Photosymbiotic host species slated for Sanger Institute Chromosome level Sequencing** (taxa in red may be considered as alternates or substitutes for now, e.g. if other samples run into problems [shipping, permits or technical failures etc.].)

Host	PI or Sample steward
1. <i>Ricordea florida</i>	Mónica Medina (Penn State University); Anthony Bellantuono (FIU)
2. <i>Meandrina maeandrites</i>	Cheryl Woodley (NOAA)
3. <i>Stephanocoenia intersepta</i>	Abby Renegar (Nova Southeastern University)
4. <i>Cassiopea frondosa</i>	Mónica Medina; Anthony Bellantuono
5. <i>Cassiopea xamachana</i>	Mónica Medina; Anthony Bellantuono
6. <i>Convolutriloba macropyga</i>	Andreas Hejnol (University of Bergen)
7. <i>Tridacna gigas</i>	Jinchung Li (University of Colorado Boulder)
8. <i>Tridacna derasa</i>	Jinchung Li
9. <i>Hippopus hippopus</i>	Jinchung Li
10. <i>Tridacna crocea</i>	Jinchung Li
11. <i>Elysia crispata</i>	Joe Lopez (Nova Southeastern University)
12. <i>Zoanthus pulchellus</i>	Joe Lopez, Timothy Swain (Nova Southeastern University)
13. <i>Pyrosoma atlanticum</i>	Joe Lopez
14. <i>Symsagittifera roscoffensis</i>	Xavier Bailly (Station Biologique de Roscoff / CNRS)
15. <i>Eunicea clavigera</i>	Juan Sanchez (Universidad de los Andes, Colombia)
16. <i>Eunicea knighti</i> OR <i>E. fusca</i>	Juan Sanchez
17. <i>Muricea laxa</i>	Juan Sanchez
18. <i>Pterogorgia guadalupensis</i>	Juan Sanchez
19. <i>Antillogorgia bipinnata</i>	Juan Sanchez
20. <i>Costasiella ocellifera</i>	Patrick Krug (California State University, LA); Michael Middlebrooks (University of Tampa)
21. <i>Porites divaricata</i>	Abby Renegar, NSU
22. <i>Orbicella faveolata</i>	Mónica Medina
23. <i>Orbicella annularis</i>	Mónica Medina
24. <i>Xestospongia muta</i>	Joe Lopez
25. <i>Palythoa grandis</i>	Joe Lopez, Timothy Swain
26. <i>Fragum fragum</i>	Jinchung Li
27. <i>Fragum whitleyi</i>	Jinchung Li
28. <i>Petrosia ficiformis</i>	Laura Steindler (University of Haifa)
29. <i>Chondrilla nucula</i>	Laura Steindler
30. <i>Diacarnus erythraenus</i>	Laura Steindler
31. <i>Hydra viridissima</i>	Daniel Martinez (Pomona College), Rob Steele (University of California, Irvine)
32. <i>Acropora cervicornis</i>	Mónica Medina

33. <i>Condylactis gigantea</i>	Joe Lopez
34. <i>Gorgonia ventalina</i>	Nikolaos Schizas
35. <i>Eunapius fragilis</i>	Cole Easson (Middle Tennessee State University)
36. <i>Fragum sueziense</i>	Jingchun Li
37. <i>Eutreptiella</i>	Senjie Li (University of Connecticut)
38. <i>Noctiluca scintillans</i>	Joachim Goes (Columbia University)
39. <i>Tetraselmis convolutae</i>	Xavier Bailey
40. <i>Aliger (ex. Strombus) gigas</i>	Nikolaos (Nick) Schizas (University of Puerto Rico, Mayaguez)
41. <i>Trididemnum solidum</i>	Nikolaos Schizas
42. <i>Rhodactis osculifera</i>	Nikolaos Schizas
43. <i>Palythoa caribaeorum</i>	Nikolaos Schizas
44. <i>Millepora alcicornis</i>	Nikolaos Schizas
45. <i>Millepora complanata</i>	Nikolaos Schizas
46. <i>Briareum asbestinum</i>	Nikolaos Schizas
47. <i>Didemnum molle</i>	Euichi (Luigi) Hirose (University Ryukyus)
48. <i>Diplosoma virens</i>	Euichi (Luigi) Hirose
49. <i>Trididemnum miniatum</i>	Euichi (Luigi) Hirose
50. <i>Trididemnum clinides</i>	Euichi (Luigi) Hirose
51. <i>Trididemnum nubilum</i>	Euichi (Luigi) Hirose
52. <i>Prorocentrum donghaiense</i>	Senjie Li
53. <i>Eunicea flexuosa</i>	Joe Lopez, Carlos Prada (University of Rhode Island)
54. <i>Antillogorgia americana</i>	Joe Lopez
55. <i>Eunicea succinea</i>	Joe Lopez, Catherine McFadden (Harvey Mudd College)
56. <i>Muricea muricata</i>	Joe Lopez, Santiago Herrera (Lehigh University)

-Jose (Joe) Lopez, PhD, GIGA President

### Fellowship Awards

The Alliance is pleased to be able to provide support for students and early career researchers, through the community and modest financial support wherever possible. This past year, GIGA teamed up with the IGNITE Network to offer €1600 scholarship to Aabha Deshpande for her project “Whole genome sequencing of *Cinachyrella cf. cavernosa*”. This research will be conducted in the Laboratory of Prof. Jean-François Flot, at the Université Libre de Bruxelles, Belgium. GIGA wants to congratulate Aabha and all the other participants for their competitive proposals!

### Treasury

On the Treasury side GIGA has had an exciting year, filing taxes for the first time—and getting the first penalty for filing FL State taxes a day late (we owed 0 US dollars). Our expenses for the year were related to tax filing and Federal taxes plus a few small banking fees, but we have been quite frugal spending funds. We had generous donations from our members and friends,

amounting to 500 US dollars, and hope that this year we can obtain additional funds to support our student grants.

### Upcoming Elections

GIGA is currently receiving nominations for executive board positions. New elections for the GIGA Governing Board (GB) will be happening soon, before the end of year, as a nominating election committee is currently being formed. Please stay tuned and participate in the next election for a new President, and 3 Vice presidents.

We will send out another newsletter after the elections, and will help the new President-elect and board get on their feet.

### Meetings

Registration is now open for the Biodiversity Genomics 2021 online conference. Attendance is open and free. "The meeting will run from Sept 27 to Oct 1, 15:00-20:00 BST, with talks and parallel sessions (16:00- 19:00) preceded and followed by poster sessions, social and community events. GIGA is now planning to organize session." Please stay tuned or contact Adelaide Rhodes ([adelaide.rhodes@gmail.com](mailto:adelaide.rhodes@gmail.com)) or a GIGA board member if you are interested to help organize or speak.

<https://enrolment.engage-powered.com/hinxtonhall/go/register.aspx?fbclid=IwAR25XFQ5xxP11pDoXTOHsDKPYX6QsWuK3b9z079nMF6J1ylvrS-5qh3glCk>

### *GIGA IV - IGNITE Online meeting*

VP Jean-François is organizing a mini GIGA online conference for early to mid November. Timeline for an upcoming in-person meeting?

-website for the conference on

<https://www.sciencesconf.org/>, with the modules for abstract submission, abstract editing, online registration and registration payment"

### Featured Genome - Chambered Nautilus, *Nautilus pompilius*

Recently the genome of the Chambered Nautilus *Nautilus pompilius* was reported, with combined PacBio and Illumina sequencing [1, 2]. The studies report chromosome-level assemblies of a Chinese population of *Nautilus* [1]--a locality not previously reported in the scientific literature!



The Nautilus genome provides new insights into the evolution of the Cephalopod eye, as well as into the origins and evolution of Cephalopods [2].

Additional resources are available for cephalopod comparative genomics, which (as of July 2021) encompass 8 additional octopus, squid, and cuttlefish genomes:

- The Cephalopod Genome Browser (Associazione

Cephalopod Research “CephRes”)

[https://www.cephalopodresearch.org/ceph\\_gdata/](https://www.cephalopodresearch.org/ceph_gdata/)

- NCBI Genome Database: [https://www.ncbi.nlm.nih.gov/genome?term=txid6605\[orgn\]](https://www.ncbi.nlm.nih.gov/genome?term=txid6605[orgn])

1. Huang, Z, Huang, W, Liu, X, Han, Z, Liu, G, Boamah, GA, Wang, Y, Yu, F, Gan, Y, Xiao, Q, Luo, X, Chen, N, Liu, M, You, W & Ke, C (2021). Genomic insight into the adaptation and evolution of the *Nautilus*, an ancient but evolving “living fossil”. *Molecular Ecology Resources*.
2. Zhang, Y, Mao, F, Mu, H, Huang, M, Bao, Y, Wang, L, Wong, NK, Xiao, S, Dai, H, Xiang, Z, Ma, M, Xiong, Y, Zhang, Z, Zhang, L, Song, X, Wang, F, Mu, X, Li, J, Ma, H, Zhang, Y, Zheng, H, Simakov, O & Yu, Z (2021). The genome of *Nautilus pompilius* illuminates eye evolution and biomineralization. *Nature ecology & evolution*. doi:10.1038/s41559-021-01448-6

#### Recently accessioned invertebrate genomes at NCBI (Spring 2021) \*:

1. *Caligulus rogercressyi* (Sea Louse, Crustacea)  
[https://www.ncbi.nlm.nih.gov/genome/38161?genome\\_assembly\\_id=1655666](https://www.ncbi.nlm.nih.gov/genome/38161?genome_assembly_id=1655666)
2. *Streblospio benedicti* (Ram’s Horn Worm, Annelida)  
[https://www.ncbi.nlm.nih.gov/genome/14603?genome\\_assembly\\_id=1654287](https://www.ncbi.nlm.nih.gov/genome/14603?genome_assembly_id=1654287)
3. *Argyroneta aquatica* (water spider, Chelicerata)  
[https://www.ncbi.nlm.nih.gov/genome/37105?genome\\_assembly\\_id=1652147](https://www.ncbi.nlm.nih.gov/genome/37105?genome_assembly_id=1652147)
4. *Amphibalanus amphitrite* (Striped Barnacle, Crustacea)  
[https://www.ncbi.nlm.nih.gov/genome/11241?genome\\_assembly\\_id=1651135](https://www.ncbi.nlm.nih.gov/genome/11241?genome_assembly_id=1651135)
5. *Brachionus manjavacas* (Rotifera)  
[https://www.ncbi.nlm.nih.gov/genome/14198?genome\\_assembly\\_id=1651151](https://www.ncbi.nlm.nih.gov/genome/14198?genome_assembly_id=1651151)
6. *Proales similis* (Rotifera)  
<https://www.ncbi.nlm.nih.gov/genome/103934>
7. *Homarus americanus* (American Lobster, Crustacea)  
[https://www.ncbi.nlm.nih.gov/genome/10711?genome\\_assembly\\_id=1648224](https://www.ncbi.nlm.nih.gov/genome/10711?genome_assembly_id=1648224)
8. *Panulirus ornatus* (Ornate Rock Lobster, Crustacea)  
[https://www.ncbi.nlm.nih.gov/genome/9679?genome\\_assembly\\_id=1619938](https://www.ncbi.nlm.nih.gov/genome/9679?genome_assembly_id=1619938)
9. *Paralithodes camtschaticus* (Red King Crab, Crustacea)  
[https://www.ncbi.nlm.nih.gov/genome/15993?genome\\_assembly\\_id=1620010](https://www.ncbi.nlm.nih.gov/genome/15993?genome_assembly_id=1620010)
10. *Birgus latro* (Coconut Crab, Crustacea)  
[https://www.ncbi.nlm.nih.gov/genome/85104?genome\\_assembly\\_id=1620232](https://www.ncbi.nlm.nih.gov/genome/85104?genome_assembly_id=1620232)
11. *Nautilus pompilius* (Chambered Nautilus, Cephalopoda)  
[https://www.ncbi.nlm.nih.gov/genome/56783?genome\\_assembly\\_id=1619093](https://www.ncbi.nlm.nih.gov/genome/56783?genome_assembly_id=1619093)
12. *Dolomedes plantarius* (Great Raft Spider, Chelicerata)

[https://www.ncbi.nlm.nih.gov/genome/101471?genome\\_assembly\\_id=1618860](https://www.ncbi.nlm.nih.gov/genome/101471?genome_assembly_id=1618860)

13. *Batillaria attramentaria* (Japanese Mud Snail, Gastropoda)

[https://www.ncbi.nlm.nih.gov/genome/89374?genome\\_assembly\\_id=1614677](https://www.ncbi.nlm.nih.gov/genome/89374?genome_assembly_id=1614677)

14. *Archezogozetes longisetosus* (Moss Mite, Chelicerata)

[https://www.ncbi.nlm.nih.gov/genome/103391?genome\\_assembly\\_id=1642572](https://www.ncbi.nlm.nih.gov/genome/103391?genome_assembly_id=1642572)

\* Genomes are listed by date of accession starting with the most recent. Genomes are most commonly at contig-level of completion, but may represent scaffold-, assembly-, or chromosome-levels of completion.

### Social Media statistics/yearly growth

- 1) Twitter (1,174 Followers)

Last year stats (Jul 2020-now):

New followers: 539

Visits: 6,506

Impressions: 118,290

Best month: October 2020 (because of the Biodiversity Genomics 2020 conference + first GIGA fellowship announcement).

New followers: 140

Visits: 1,098

Impressions: 56K

- 2) Facebook Group (542 members)

Last Year stats (Jul 2020-now):

Posts: 108

Comments: 81

Reactions: 1,767

Active Members: 353

New Members: 107

Curiosities: Fridays are the most popular days of the week (for the activity in the group), Thursdays and Thursdays are tied for the less popular.

### Donations to the GIGA nonprofit

And as always, please provide any support you can for the COS by giving a little back. As you know, GIGA does not impose any formal, required dues for members. Anyone can donate here

<https://www.paypal.com/paypalme2/GIGAIII>

**Thank you.**