

Sponges collected from ARMS in experimental mesocosms:

In situ images of sponge vouchers belonging to 76 sponge OTUs and 9 species collected for paper entitled: “Decline of non-calcifying sponges in coral reef cryptobenthic communities under projected ocean warming and acidification”

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OTU 1*Leucosolenida* sp. 11previously *Leucosoleniidae* sp. 1 *Leucandra* sp. 1, *Leucosolenida* sp. 8 Used to be (OTU22)*Leucosolenia* sp. 1

KBOA12191612 (31/?/?)(OTU22)

KBOA1219161

KBOA12191612

KBOA061118031 (7/2/T)

KBOA061118015 (1/2/T)

KBOA03161840 (26/2/B)

KBOA0410176 (34/?/?) (BKON-2586)

KBOA02131728 (BKON-2585)

KBOA09271719 (45/1)

Blast results: *Leucandra nicolai* (97% 28SrRNA)**OTU 2***Leucosolenida* sp. 13previously *Leucosoleniidae* sp. 2, *Anamixilla* sp. 1,*Leucosolenia* sp. 4 (OTU18)Used to be *Sycota* sp. 3

KBOA12191623 (36/?/?) (no picture)

KBOA12191628 (33/1) (BKON-2589)

KBOA09271777 (16/2/B) (BKON-2587)

KBOA02131733 (36/1/?/6 BP difference to 77)

KBOA02131740 (23/1/?/?) (BKON-2588)

KBOA01191832 (16/3/T)

KBOA01191837 (16/1/B)

KBOA0316185 (43/2/T)

KBOA02131712 (37/1/?/3 bp difference)

KBOA02131714 (37/2/?/3 bp difference) (BKON-2616)

KBOA08011723 (16/1/B/3 bp difference) (BKON-2614)

KBOA08011711 (43/1/B/3 bp difference) (BKON-2615)

BKON-1073

KBOA0119181 (43/1/)

KBOA0927178 (43/2)

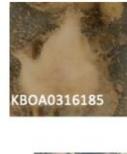
KBOA09271710 (43/1/I/)

KBOA11211719 (43/)

KBOA11211720 (43/1)

KBOA0316185 (43/2)

KBOA061118337 (44/3)

Blast: *Anamixilla sinapensis* (98% 28S rRNA)

OTU 3

Leucosolenida sp. 14

Previously Leucosoleniidae sp. 3, Anamixilla sp. 2

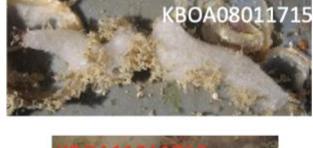
KBOA08011715 (45/1/B)

KBOA04101732 (41/1/B) (BKON-2590)

KBOA11211710 (42/1)

BKON-1845

(99%) 28S rRNA



OTU 7

Clathrinidae sp. 1

Used to be Clathrina sp. 1 KBOA1219167 (34/?/?) BKON-2595

KBOA061118414 (B/4/B)

Blast results: Clathrina adusta (98% 28S rRNA)



OTU 8

Clathrinidae sp. 2

Used to be *Clathrina* sp. 2

KBOA12191620 (39/?/?)

KBOA04101723 (15/2/T) (BKON-2597)

KBOA08011747 (9/3/B) (BKON-2596)

KBOA11211760 (16/1/B)

KBOA03161863 (7/2/B)

KBOA03161887(16/3/B)

Blast results: *Clathrina wistariensis* (98% 28S rRNA)

**OTU 9**

Clathrinidae sp. 3

Used to be *Clathrina* sp. 3, *Clathirna* sp. 6, *Clathrinidae* sp. 6 (OTU 12),

Clathrina sp. 7, *Clathrinidae* sp. 7 (OTU13)

KBOA06071711 (1/1/B) (BKON-2599) ATHCO2

KBOA09271762 (22/2/t) (BKON-2598) HTACO2

KBOA061118231 (21/1/B) HTHCO2

KBOA09271763 (22/1/B) (BKON-2600) HTACO2

KBOA061118067 (25/2/B) ATHCO2

KBOA09271739 (36/3/T) (BKON-2601) ATHCO2

Blast results: *Clathrina wistariensis* (97% 28S rRNA)

OTU 9

OTU 10

Clathrinidae sp. 4
Used to be *Clathrina* sp. 4
KBOA0213177 (9/2/?)
KBOA09271734 (25/1/B) (BKON-2603)
KBOA09271735 (25/1/B) (BKON-2602)
KBOA09271736 (25/1/B) (BKON-2604)
KBOA09271746 (1/1/B) (BKON-2605)
KBOA09271749 (7/2/T)
KBOA09271780 (34/2/B)
KBOA09271788 (23/3/T) (BKON-2606)
KBOA09271789 (26/1/B)
KBOA04101711 (17/1/B)
KBOA03161849 (10/2/B)
KBOA061118383 (A/7/B)
KBOA03161848 (10/2/B)
KBOA061118484 (D/6/T)
KBOA061118503 (E/4/B)
KBOA01191883 (23/1)
KBOA01191886 (10/2)
KBOA01191895 (17/1)
KBOA01191897 (17/1)

KBOA08011724 (16/1/B) *8 bp difference from rest
Blast results: *Clathrina luteoculcitella* QM G313684
(92% 28S rRNA)



OTU 11

Clathrinidae sp. 5
Used to be *Clathrina* sp. 5

KBOA02131730 (1/2/?)
KBOA02131737 (/?/?) BKON-2607

Blast results: *Clathrina* sp. OV-2012 voucher (93% 28S rRNA)



OTU 14

Leucosolenida sp. 10

Used to be Heteroptiidae sp. 1

KBOA1219169 (34)

KBOA061118235 (21/2/B)

KBOA03161885 (4/2/B)

Blast results: *Syconessa panicula* (96% 28S rRNA)

Not catalogued with the museum. Only one sample



OTU 15

Leucosolenida sp. 1

Used to be Leucosolenia sp. 2

KBOA061118026 (7/1/T)

KBOA061118045 (36/2/B)

KBOA061118101 (23/1/B)

KBOA061118175 (34/1/T)

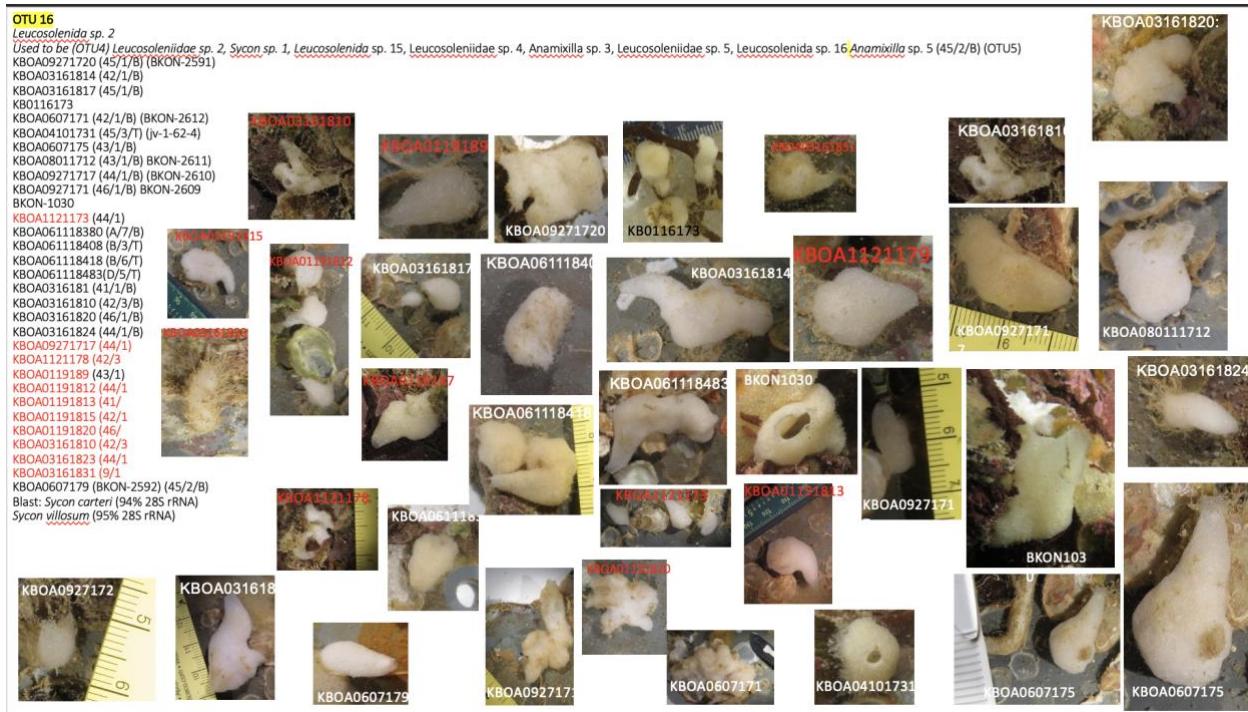
KBOA03161886 (16/3/B)

KBOA061118211 (16/1/B)

KBOA09271772 (31/1/B) BKON-2608

BLAST result: Leucosolenia sp. MMM-2001 (93%)





OTU 17

Leucosolenida sp. 3

Used to be *Sycon* sp. 2

KBOA02131713 (37/1) (BKON-2613)

Blast: *Sycon carteri* (94% 28S rRNA)

On ARMS 37 plate 2



Specimen collects a lot of sediment and is different from *Sycon* sp. 4

OTU 19

Leucosolenida sp. 5

Used to be *Sycon* sp. 4 *Leucosolenida* sp. 6 (OUT 20)

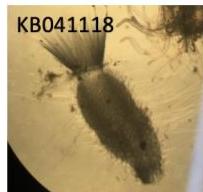
KBO41118

KBOA06071742 BKON-2618 (20/1/B) HTHCO2

KBOA061118213 (16/1/B) HTHCO2

KBOA06071728 (BKON-2617) (23/1/B) ATACO2

Blast: *Sycon carteri* (94% 28S rRNA)



OTU 21

Leucosolenida sp. 7

Used to be *Sycon* sp. 6 (Only three base pair difference from sp. 3) *Leucosolenida* sp. 17 Used to be *Leucosoleniidae* sp. 6, *Anamixilla* sp. 4 , OTU6

KBOA09271786 (10/2/B)

KBOA06071715 (7/1/T) (BKON-2621)

KBOA09271743 (1/2/T) (BKON-2619)

KBOA09271751 (3/1/B)

KBOA09271787 (23/3/B) (BKON-2620)

KBOA12191621 (7/1/?) (no spines detected/might be different species) (BKON-2593)

KBOA09271743 (1/3/T) (BKON-2594)

KBOA03161831 (9/1/B)

KBOA06111809 (17/2/B)

KBOA03161832 (9/1/T)

KBOA09271786 (10/2)

KBOA01191877 (9/1)

KBOA03161846 (10/2)

KBOA061118096 (17/2)

Blast: *Sycon villosum* (95% 28S rRNA)



OTU 23

Clathrinida sp. 1

Used to be *Ascalitis* sp. 1, *Clathrina* sp. 7, OTU92

KBOA08011722 (BKON-2623) (16/1/B) HTHCO2

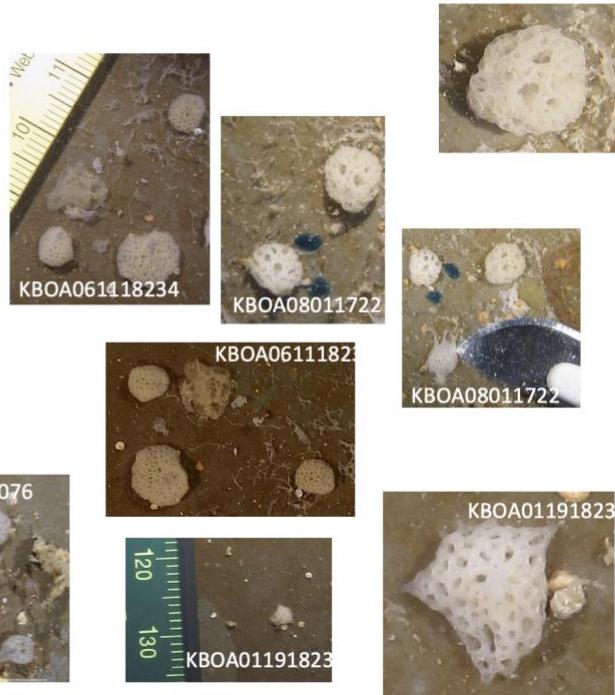
KBOA01191823 (21/2/B) HTHCO2

KBOA061118076 (9/2/B) ATACo2

KBOA061118234 (21/2/B)

KBOA061118028(7/1/T) ATHCO2

Blast results: *Ascalitis* sp., OV-2012 (95% 28SrRNA)



OTU 24

Clathrinida sp. 2

Used to be *Ascalitis* sp. 2

KBOA09271783 (20/1/B) (BKON-2624)

Blast results: *Ascalitis* sp., OV-2012 (94% 28SrRNA)



OTU 25

Chalinidae sp. 1

Used to be Chalinula sp. 1

KBOA08011727 (16/3/T)

KBOA08011717 (45/2/B) (BKON-2553)

KBOA09271756 (18/3/T)

KBOA03161873 (8/3/B)

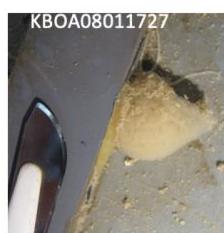
KBOA03161811 (42/2/B)

KBOA061118296 (42/2/B)

Blast: Chalinula molitba (96% 28S rRNA)

Haliclona implexiformis (99%/88% COI)

OTU 25 from ARMS study



OTU 26

Haliclona sp. 24

KBOA12191626

KBOA12191615

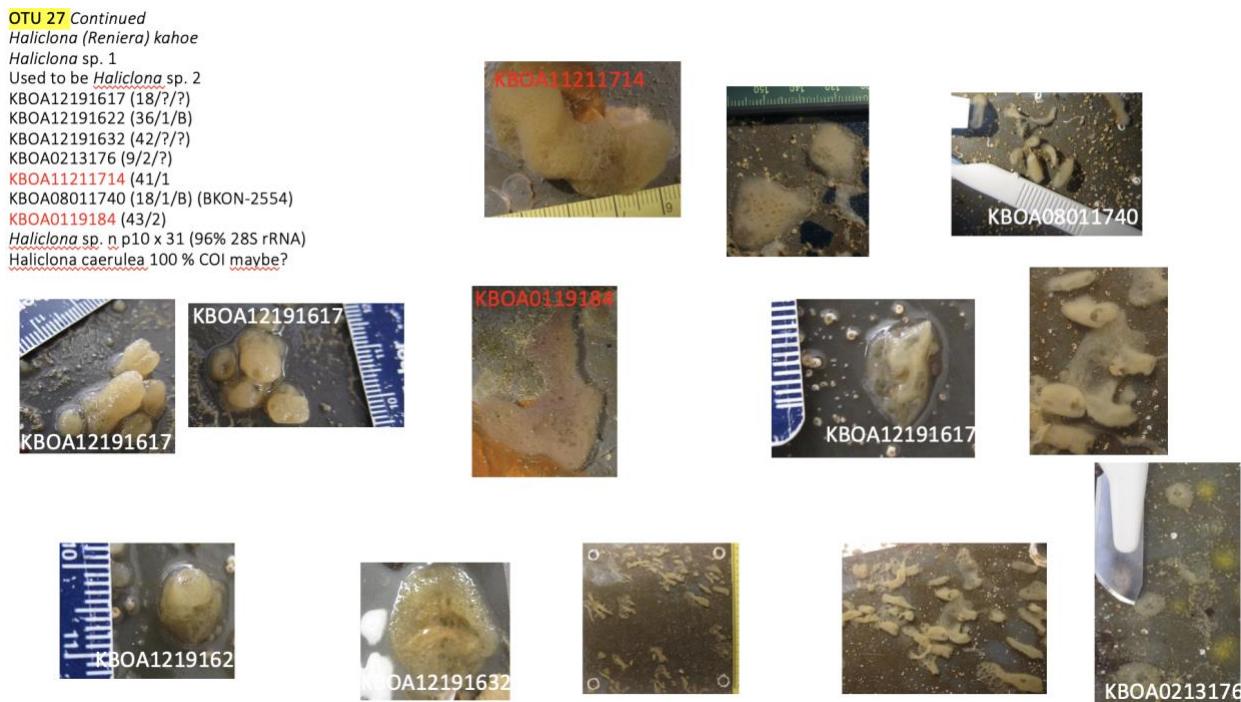
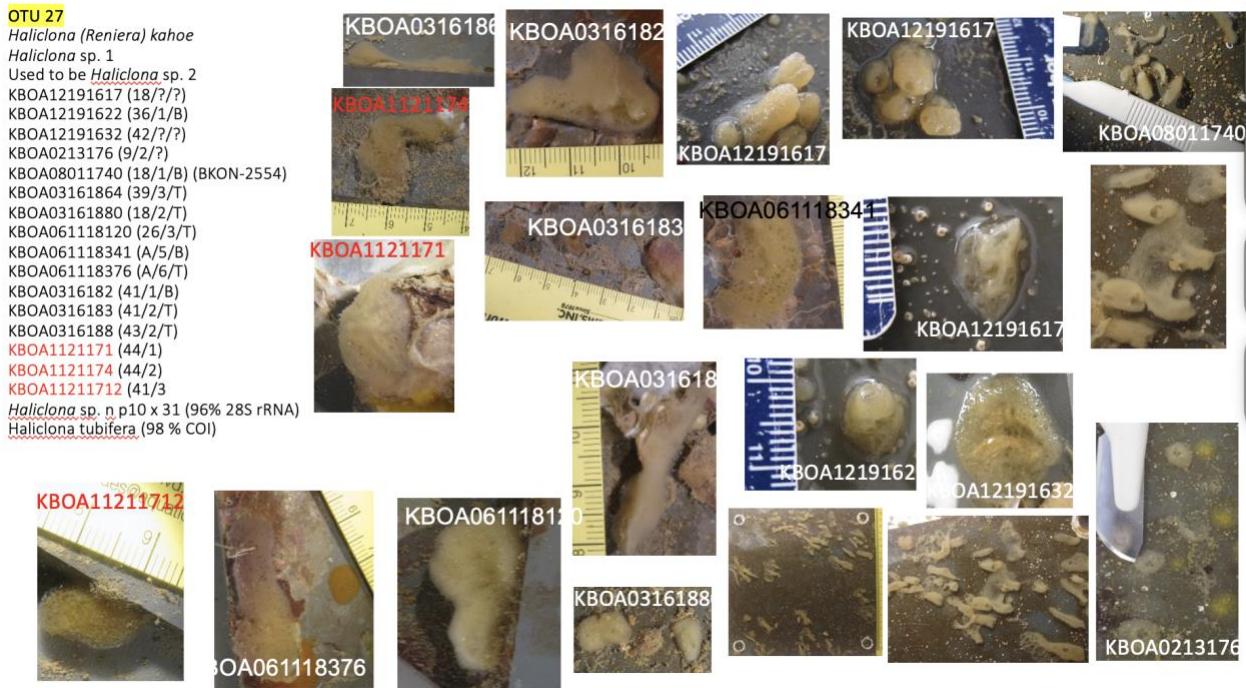
Blast results:

28S- Haliclona mangalis sp. GW3236 (93.94 % 28S rRNA),

COI- Haliclona cf. caerulea 100% COI Hawaii Kan 11,14,15; Hawaii AM 1, 7

Missing FMNH catalogue number





OTU 28

Haliclona laubefelsi

Haliclona sp. 2 (check if it is *Haliclona (Gellius) violacea*)

Used to be *Haliclona* sp. 7

KBOA12191618 (39/?/?)

KBOA00410175 (37/2/T)

KBOA03161859 (1/2/B)

KBOA03161861 (7/2/B)

KBOA01191876 (9/2)

KBOA06071719 (BKON-2555) Not sequenced yet...

Blast results: *Haliclona* sp. np10x31 (96% 28S rRNA)

Haliclona pseudotoxa (96% COI)



KBOA12191618



OTU 29

Haplosclerida sp. 1

Used to be *Haliclona* sp. 12

KBOA06071710 (41/2/T)

KBOA02131719

KBOA0801177 (41/2/T) (BKON-2556)

KBOA03161845 (10/2/B)

KBOA061118444 (D/1/T)

KBOA061118465 (D/3/B)

KBOA0927177 (43/2)

KBOA0119182 (43/1)

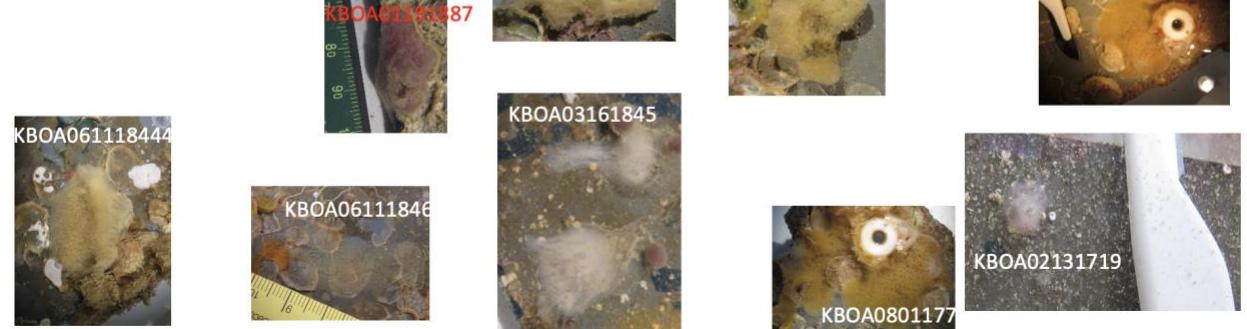
KBOA0119183 (43/1)

KBOA01191885 (10/2)

KBOA01191887 (10/2)

Blast results: *Haliclona tubifera* (91% 28S rRNA)

Callyspongia pseudotoxa (COI 99%)



OTU 30

Haplosclerida sp. 2
Used to be *Haliclona* sp. 13
KBOA02131726 (26/1/B)?
KBOA06071738 (33/2/B) (BKON-2559)

KBOA08011746 (9/2/B) (BKON-2558)

KBOA12191627

KBOA03161833 (23/3/B)

KBOA01191876 (9/2)

Blast results: *Haliclona tubifera* (90% 28S rRNA)

Callyspongia pseudotoxa (94% COI)



OTU 31

Haliclona sp. 3

Used to be *Haliclona* sp. 5

KBOA12191610 (34/?/?)

KBOA09271775 (34/1/B) (BKON-2557)

Blast results: *Haliclona vansoestii* (85% 28S rRNA)

Haliclona plakophila (98% COI)



KBOA09271775

OTU 32

Haliclona sp. 4

Used to be *Haliclona* sp. 14

KBOA06071736 (26/2/B) BKON-2561

KBOA09271727 (15/2/T) BKON-2560

KBOA061118113 (26/1/T) COI

KBOA061118018 (15/1/T) COI

KBOA08011748 (25/3/)

KBOA061118112 (26/1)

Blast: *Haliclona vansoesti* (91% 28S rRNA)

Haliclona vansoesti (98% COI)



OTU 33

Haplosclerida sp. 3

Used to be *Niphates* sp. 1

KBOA08011728 (20/1/B) (BKON-2562)

Blast results: *Niphates olemda* (98.99 % 28S rRNA)



OTU 35

Callyspongia sp. 1

Used to be OTU 34, Haplosclerida sp. 4, Haliclona sp. 16

KBOA06071731 (23/3/B)

KBOA0927175 (43/3/T) (BKON-2563)

KBOA0410172 (23/3/B)

KB11164 (BKON-1075)

KB11165 (BKON-2648)

KBOA061118302 (45/1/T)

BKON-2641

Blast: Callyspongia sp. GW907 (98% 28S rRNA)
OTU35 in ARMS study

OTU 37

Haplosclerida sp. 7

Used to be *Haliclona* sp. 18

KBOA061118042 (36/1/B))

KBOA09271741 (36/1/B) (BKON-2565)

Blast: *Amphimedon queenslandica* (90% 28SrRNA)

Gelliodes wilsoni (98%) COI



OTU 38

Haliclona (Rhizoniera) pahua

Haplosclerida sp. 8

Used to be *Haliclona* sp. 19

KBOA09271753 (3/2/T) (BKON-2566)

KBOA08011735 (3/1/B)

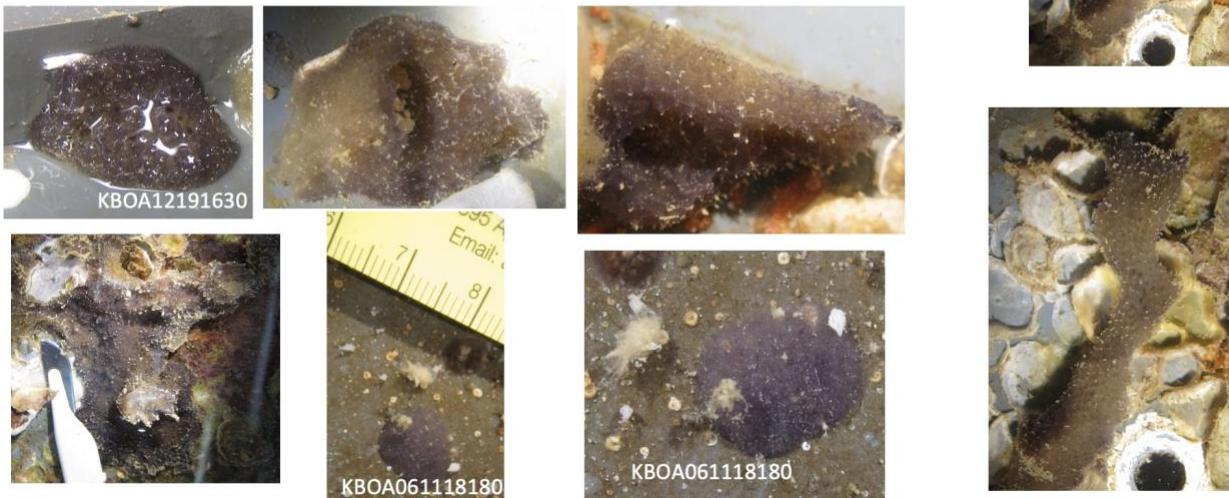
Blast: *Amphimedon queenslandica* (88% 28SrRNA)

Gelliodes wilsoni (98%) COI



OTU 40

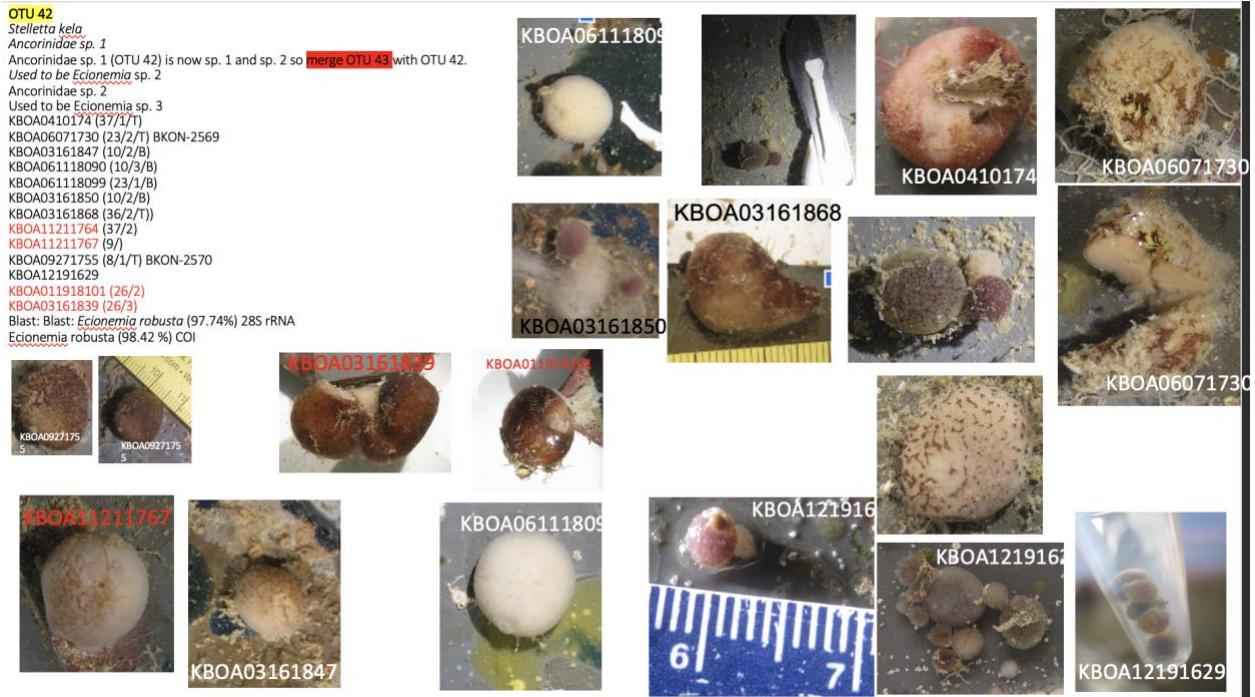
Gelliodes wilsoni KBOA12191630 (42/2/B)
Gelliodes sp. ? KBOA0607173 (BKON-2567) (42/1/B)
KBOA061118180 (34/1/B)
Blast: *Amphimedon queenslandica* (88%)
Gelliodes wilsoni (99% COI)



OTU 41

Haplosclerida sp. 10
Used to be *Dasychalina* sp. 1
KBOA09271784 (33/1/B) (BKON-2568)
KBOA061118181 (34/1/B)
Blast: *Niphates olemda* 99% 28SrRNA
Dactylia varia (99% 28SrRNA)
Pachychalina sp. (99% 28S rRNA)





Stelletta kuhapa

Ancorinidae sp. 5 **OTU 46**

Ancorinidae sp. 5 used to be *Stelletta* sp. 3

Ancorinidae sp. 7 **OTU 46**

KBOA08011750 (15/1/T) (BKON-2574)

KBOA02131735 (?)

KBOA09271724 (15/3/T) check

Blast results: Stelletta sp. PC-2009 (97% 28S rRNA)



Used to be *Stelletta* sp. 4 and *Stelletta* sp. 5

KBOA09271773 (31/1/T) (BKON-2576)

KBOA09271732 (15/1/T) (BKON-2575)

KBOA09271765 (31/3/T) check (BKON-2577)

KBOA08011742 (31/1/T)

KBOA03161856 (37/2/T)

KBOA03161875 (31/3/T)

KBOA061118190 (31/1/T)

KBOA061118188 (31/1/T)

KBOA03161877 (31/1/T)

KBOA03161867 (15/3/T)

KBOA03161857 (37/1/T)

KBOA061118122 (37/1/T)

Blast results: Stelletta sp. PC-2009 (97% 28S rRNA)

Ancorinidae sp. 5 (continued)

OTU 46



OTU 49

Aplysilla rosea

KBOA06071737 (21/2/B) (BKON-2578)

KBOA061118400 (B-2-T) NO DNA

Blast: Darwinella rosea (98% 28S rRNA)



OTU 50

Dendroceratida sp. 3

Used to be Dictyoceratida sp. 1

Used to be Aplysilla sp. 1

KBOA08011741 (18/3/B)

KBOA061118482 (D/5/T)

Blast: Spongionella sp. 1 (84% 28S rRNA)

Igernella notabilis (91 % COI)

Missing museum voucher sample



OTU 56

Chelonaplysilla sp. 1

KBOA06071734 (9/1/B)

KBOA04101713 BKON-2582

Blast: *Spongionella* sp. 1 (83% 28S rRNA)

Chelonaplysilla erecta (97% COI)



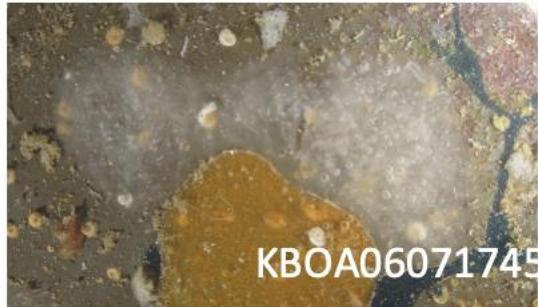
OTU 57

Dysidea sp. 5

KBOA06071745 (20/1/B)

KBOA08011729 (20/1/B) (BKON-2583)

Blast: Dysidea sp. n. G02x177 (96% 28S rRNA)



OTU 89

Verongimorpha sp. 1
 Used to be Chondrillida sp. 3
 KBOA03161822 (44/2/B)
 KBOA061118077 (9/2/B)
 KBOA061118079 (9/3/T)
 KBOA03161827 (9/3/B)
 BKON-2675
KBOA01191898 (37/2)
 Blast: *Chondrilla caribensis* 84% 285rRNA
Chondrilla aff. *nucula* (92.43 % COI)

**OTU90**

Dysidea sp. 3
 KBOA02131725 (26/1/T) (JV-1-62-13)
 BKON-1023 (KB11169)
 KBOA061118312 (45/1/B)
 BKON-2528
KBOA061118112 (26/1)
 Blast: *Eurypongia lobata* (98% 28S rRNA)
Dysidea sp. Po.25509 (98% COI ext)



OTU94

Ircinia sp. 2

KBOA03161830 (9/1/B)

KBOA061118054 (39/2/T) COI JGLGO/JGLCO

KBOA061118066 (25/2/T)

KBOA061118072 (9/1/T) COI JGLGO/JGLCO

KBOA03161871 (25/2/B)

blastn: *Ircinia strobilina* 98% 28SrRNA

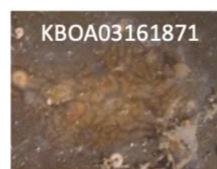
98 to 99 % similar to many *Ircinia* spp. COI

Psammocinia bulbosa, *Ircinia strobilina*

Ircinia variabilis



Missing FMNH catalogue number



OTU 51

Tethya sp. 2

KBOA04101728 (?/?/?)

KBOA08011739 (8/3/B) (BKON-2579)

KB0428172?

BKON-1843

BKON-1849

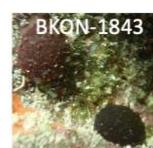
KBOA061118493 (E//)

KBOA061118373 (A/6/T)

KBOA061118158 (8/2/T) (COI)

Blast: *Tethya seychellensis* (98% 28S rRNA)

Tethya actinia (97% COI)



OTU 52

Tethya sp. 3

KBOA06071741 (4/2/B) (BKON-2580)

BKON-2532

KBOA08011732 (20/3/B)

KBOA0316187 (43/2/T)

KBOA061118426 (B/8/T)

KBOA03161882 (20/3/B)

KBOA061118523 (F/8/T)

KBOA011918102 (26/2)

KBOA03161812 (42/2)

KBOA04101715 (4/2/B)

Blast: *Tethya* sp. SI06x109 (94% 28SrRNA)

Tethya aurantium (98% COI)



OTU 53

Tethya sp. 4

KBOA061118127(37/2 /B) COI

KBOA061118062 (25/1/T) COI

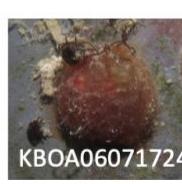
KBOA06071724 (25/1/T) (jv-1-53-16)

KBOA061118049 (39/1/B) COI

Blast: *Tethya* sp. SI06x109 (93% 28S rRNA)

Tethya aurantium (94 % COI)

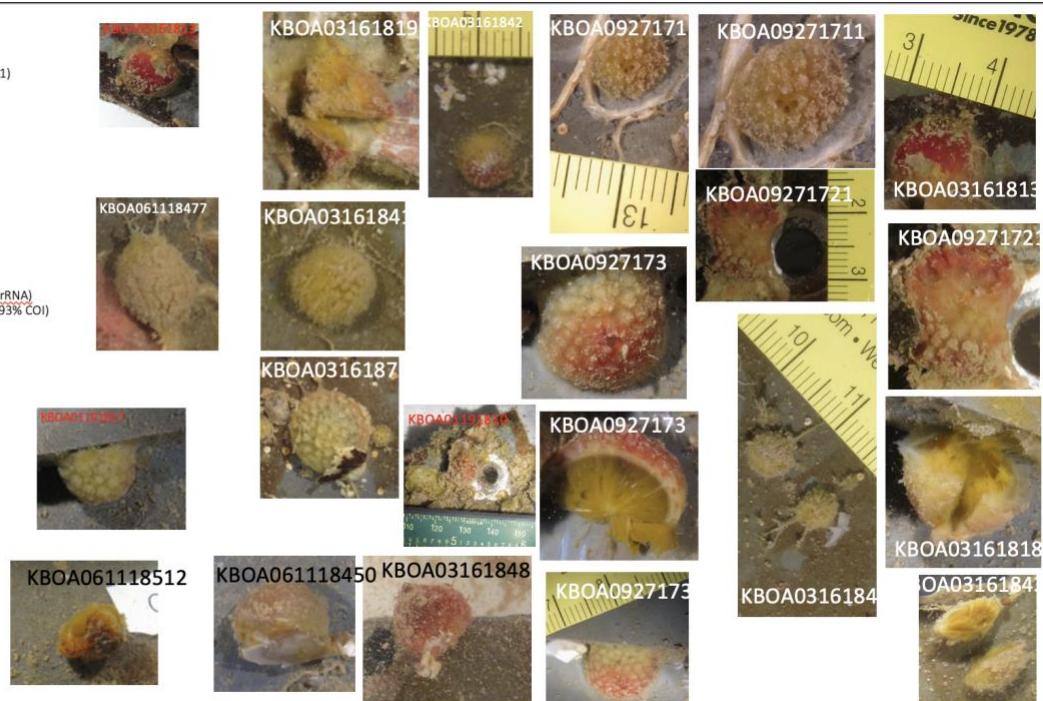
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OTU 54

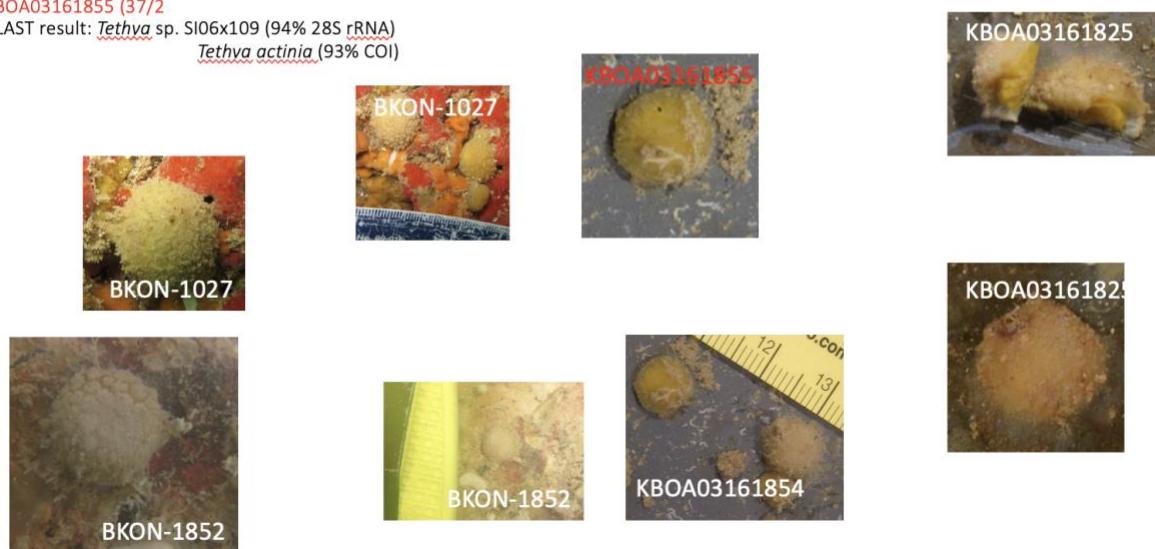
Tethya sp. 5 (fluffy)
 KBOA09271711 (43/1/T)
 KBOA09271713 (46/3/T)
 KBOA09271721 (45/1/B) (BKON-2581)
 KBOA03161813 (42/1/B)
 KBOA03161818 (46/3/T)
 KBOA03161843 (26/1/T)
 KBOA03161819 (46/1/B)
 KBOA03161841 (26/2/B)
 KBOA03161842 (26/2/T)
 KBOA03161848 (10/2/B)
 KBOA061118450 (D/2/T)
 KBOA061118477 (D/5/T)
 KBOA061118512 (E/9/T)
 KBOA01191810 (45/1)
 KBOA01191817 (46/3)
 KBOA03161813 (42/1)
 Blast: Tethya sp. SI06x109 (94% 28S rRNA)
 Tethya aurnatum (93% COI)

ARMS OTU 54



OTU 55

Tethya sp. 6
 BKON-1852
 BKON-1027
 KBOA03161854 (37/2/T)
 KBOA03161825 (9/3/B)
 KBOA03161855 (37/2)
 BLAST result: Tethya sp. SI06x109 (94% 28S rRNA)
 Tethya actinia (93% COI)



OTU 58

Chondrillida sp. 1

KBOA09271742 (39/1/T) (BKON-2584)

BKON-1062

KBOA061118058 (39/3/T))

Blast: *Chondrilla caribensis* (94% 28S rRNA)

Chondrilla aff. nucula (99.23 % COI)

Chondrilla mixta (99.90 % COI)

KBOA061118058



KBOA09271742



KBOA09271742



BKON-1062

OTU 59

Mycale sp. 9

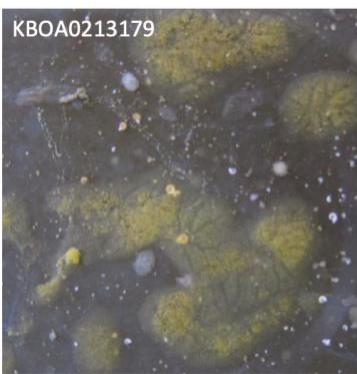
KBOA0213179 (9/3) (BKON-2626)

KBOA12191631 (42/intake?) (BKON-2625)

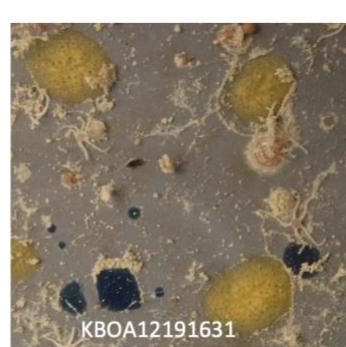
KBOA03161865 (39/1/B)

Blast: *Mycale macilenta* (97% 28S rRNA)

KBOA03161864



KBOA0213179



KBOA12191631

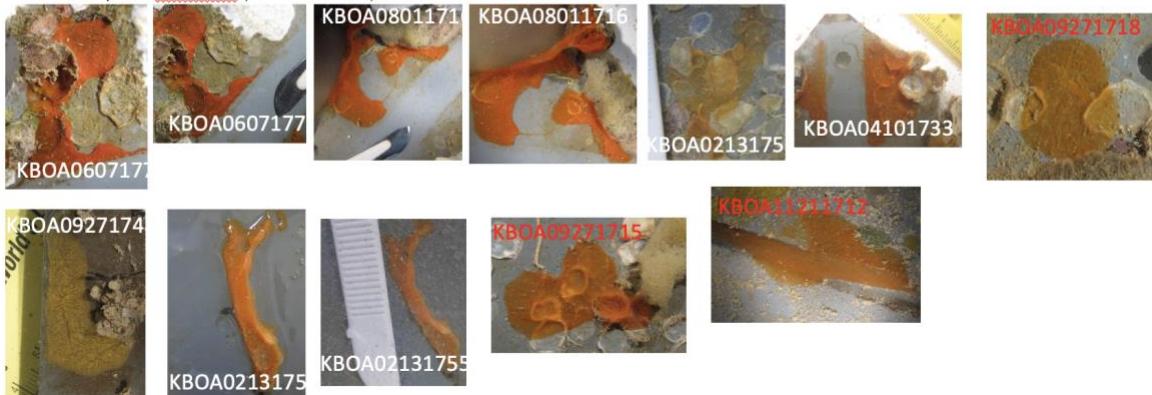


OTU 60

Mycale sp. 10

KBOA0607177 (45/2/B)
KBOA02131753 (44/1)
KBOA08011716 (45/2/B) (BKON-2627)
KBOA04101733 (44/2/B)
KBOA09271748 (7/2/T)
KBOA02131755 (45/2/?) (BKON-2628)
KBOA09271715
KBOA09271718 (45/2)
KBOA11211712 (41/3)

BLAST results: *Mycale macilenta* (97% 28S rRNA)

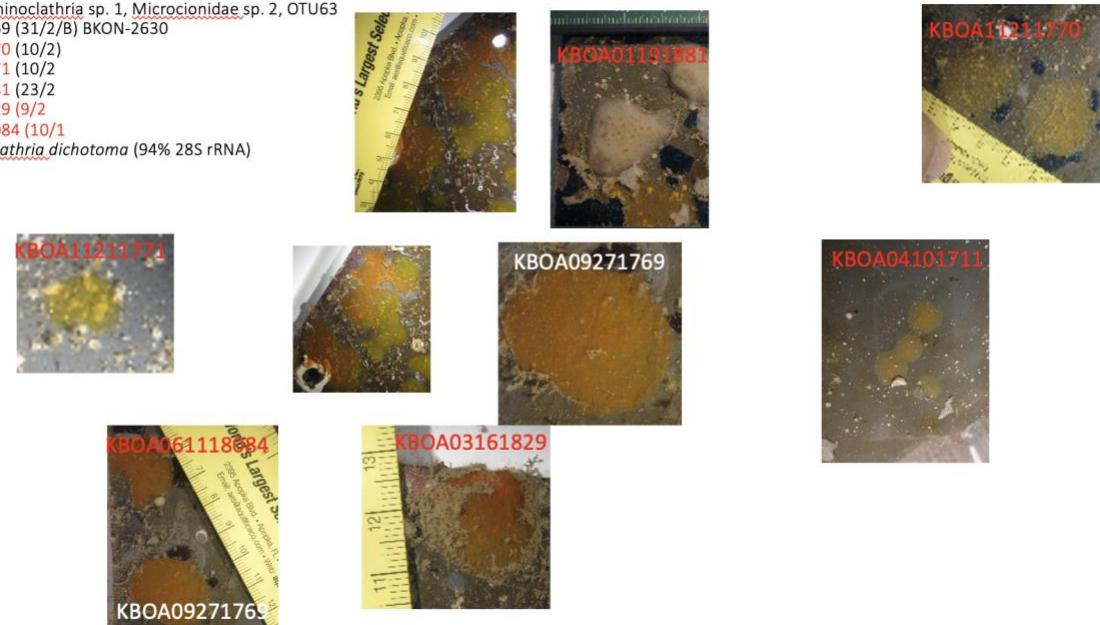


OTU 62

Poecilosclerida sp. 7

Used to be *Echinocladaria* sp. 1, *Microcionidae* sp. 2, OTU63
KBOA09271769 (31/2/B) BKON-2630
KBOA11211770 (10/2)
KBOA11211771 (10/2)
KBOA01191881 (23/2)
KBOA03161829 (9/2)
KBOA061118084 (10/1)

Blast: *Echinocladaria dichotoma* (94% 28S rRNA)



OTU 53

Tethya sp. 4

KBOA061118127(37/2 /B) COI

KBOA061118062 (25/1/T) COI

KBOA06071724 (25/1/T) (jv-1-53-16)

KBOA061118049 (39/1/B) COI

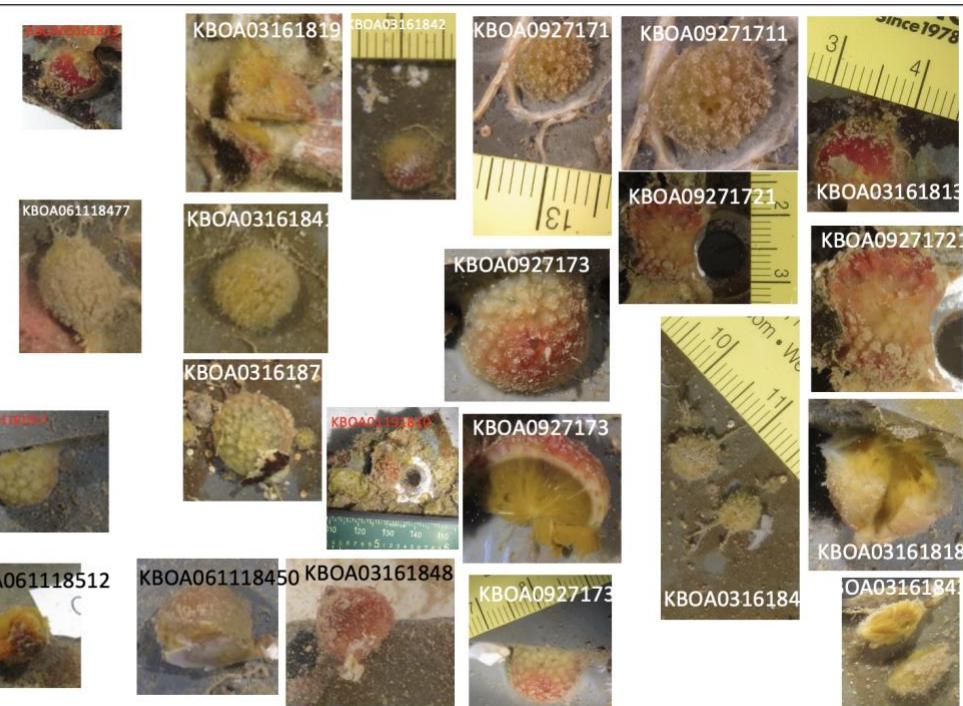
Blast: *Tethya* sp. SI06x109 (93% 28S rRNA)

Tethya aurantium (94 % COI)

Missing FMNH catalogue number



OTU 54
Tethya sp. 5 (fluffy)
 KBOA09271711 (43/1/T)
 KBOA09271721 (45/1/B) (BKON-2581)
 KBOA03161813 (42/1/B)
 KBOA03161818 (46/3/T)
 KBOA03161843 (26/1/T)
 KBOA03161819 (46/1/B)
 KBOA03161841 (26/2/B)
 KBOA03161842 (26/2/T)
 KBOA03161848 (10/2/B)
 KBOA03161872 (25/1/B)
 KBOA061118450 (0/2/T)
 KBOA061118477 (0/5/T)
 KBOA061118512 (0/9/T)
KBOA01191810 (45/1)
 KBOA01191817 (46/3)
KBOA03161813 (42/1)
 Blast: *Tethya* sp. SI06x109 (94% 28S rRNA)
Tethya aurnatum (93% COI)
 ARMS OTU 54



OTU 55
Tethya sp. 6
 BKON-1852
 BKON-1027
 KBOA03161854 (37/2/T)
 KBOA03161825 (9/3/B)
KBOA03161855 (37/2)
 BLAST result: *Tethya* sp. SI06x109 (94% 28S rRNA)
Tethya actinia (93% COI)



OTU 58

Chondrillida sp. 1

KBOA09271742 (39/1/T) (BKON-2584)

BKON-1062

KBOA061118058 (39/3/T))

Blast: *Chondrilla caribensis* (94% 28S rRNA)

Chondrilla aff. nucula (99.23 % COI)

Chondrilla mixta (99.90 % COI)

KBOA061118058



KBOA09271742



KBOA09271742



BKON-1062

OTU 59

Mycale sp. 9

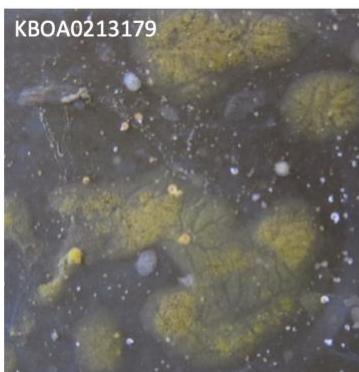
KBOA0213179 (9/3) (BKON-2626)

KBOA12191631 (42/intake?) (BKON-2625)

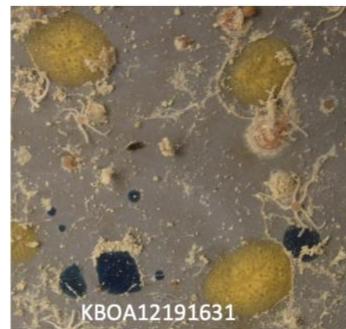
KBOA03161865 (39/1/B)

Blast: *Mycale macilenta* (97% 28S rRNA)

KBOA03161864



KBOA0213179



KBOA12191631

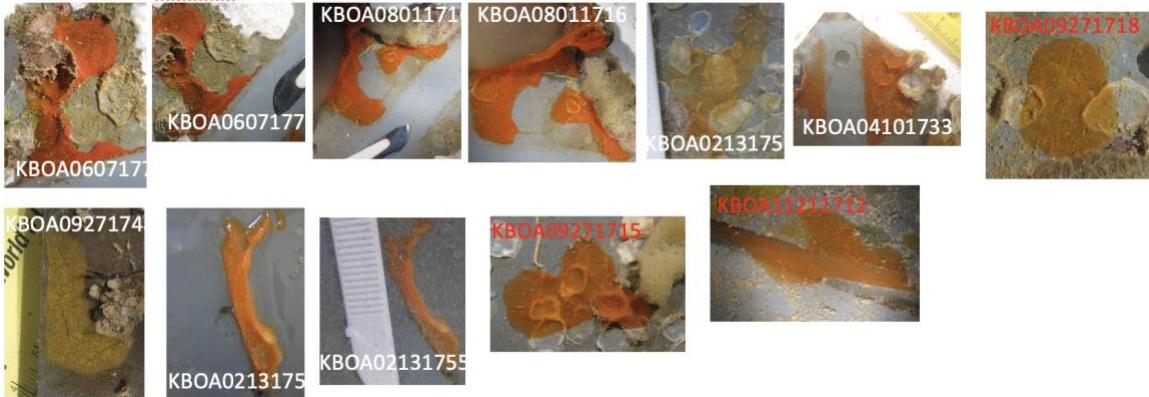


OTU 60*Mycale* sp. 10

KBOA0607177 (45/2/B)
 KBOA02131753 (44/1)
 KBOA08011716 (45/2/B) (BKON-2627)
 KBOA04101733 (44/2/B)
 KBOA09271748 (7/2/T)
 KBOA02131755 (45/2/?) (BKON-2628)

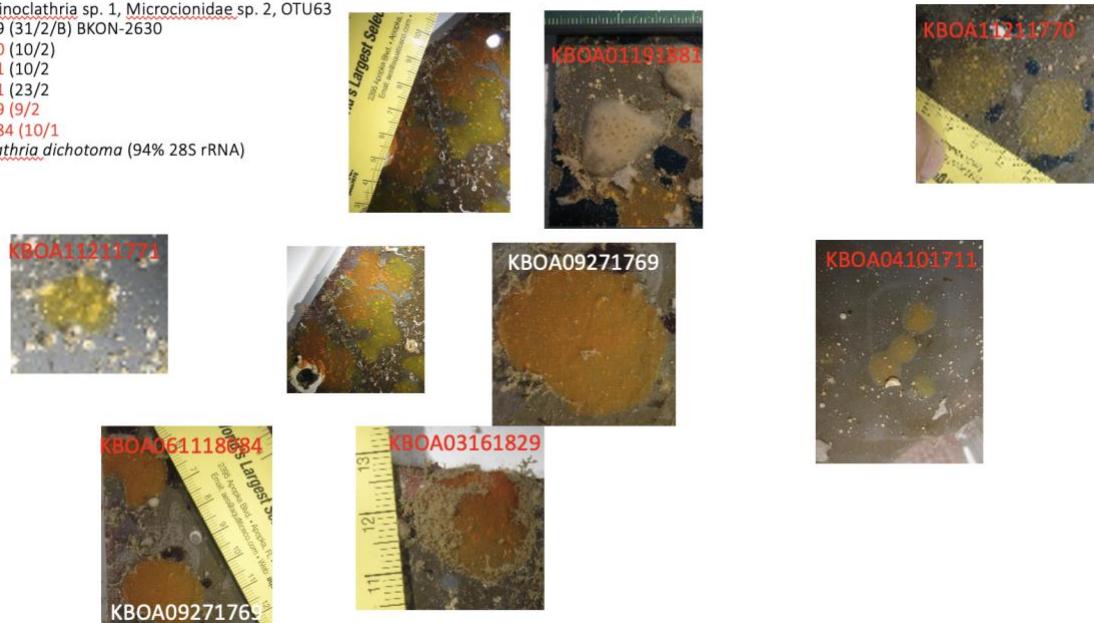
KBOA09271715

KBOA09271718 (45/2)
KBOA11211712 (41/3)

BLAST results: *Mycale macilenta* (97% 28S rRNA)**OTU 62***Poecilosclerida* sp. 7

Used to be *Echinocladaria* sp. 1, *Microcionidae* sp. 2, OTU63
 KBOA09271769 (31/2/B) BKON-2630

KBOA11211770 (10/2)
KBOA11211771 (10/2)
 KBOA01191881 (23/2)
 KBOA03161829 (9/2)
 KBOA061118084 (10/1)

Blast: *Echinocladaria dichotoma* (94% 28S rRNA)

OTU 64

Tedania sp. 1

Tedania cf. macrodactyla

Used to be Tedania sp. 1

KBOA06071720 (39/1/T) (BKON-2631)

Tedania tubulifera (97% 28S rRNA)

Tedania pilarose (96% COI)

Resembles Tedania macrodactyla (Bergquist 1967)



OTU 65

Tedania cf. klausii

Used to be Tedania sp. 2

KBOA02131734 (36/3/B)

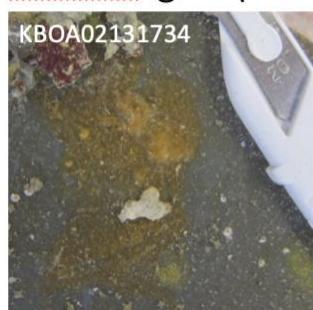
KBOA06071727 (36/1/T) (BKON-2632)

Blast: Tedania strongilostyla (99% 28S rRNA)

Tedania reticulata (according to de Felice or Tedania ignis? according to de Laubenfels)

Tedania klausii 99% COI Wulff paper

Tedania ignis (97% COI)



OTU 66

Poecilosclerida sp. 1

Used to be Lissodendoryx sp. 1

KBOA04101716 (16/3/T) COI/28S rRNA

KBOA08011725 (16/2/T) BKON-2633

BKON-1857

KBOA03161883 (20/2/T)

KBOA061118449 (D/2/T)

Blast results: Lissodendoryx fibrosa (89% 28S rRNA)

Poecilosclerida sp. (95% COI)



OTU 67

Poecilosclerida sp. 2

Used to be Poecilosclerida sp. 1

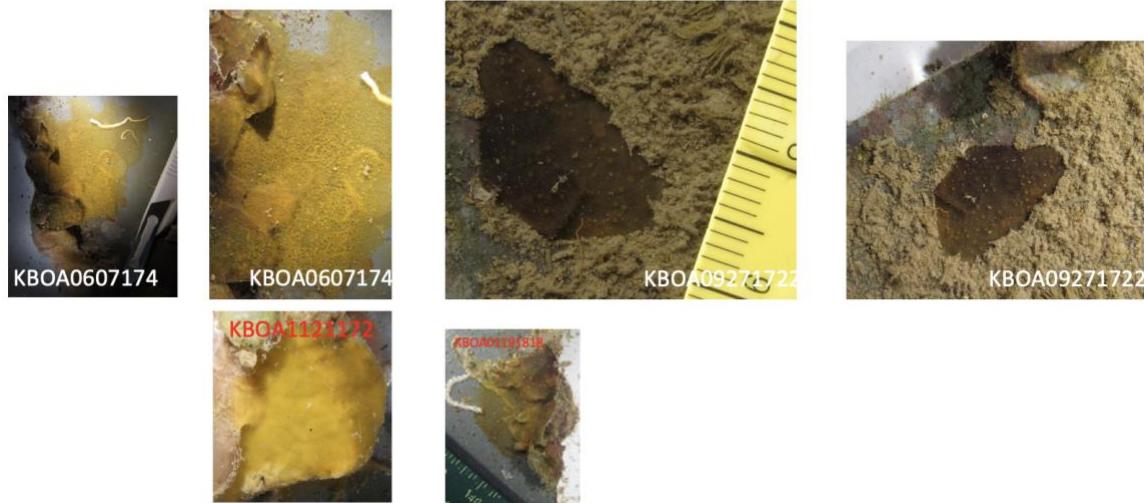
KBOA0607174 (42/2/B) (UV-1-53-4) BKON-2629

KBOA09271722 (42/3/T)

KBOA1121172 (44/1/1)

KBOA01191818 (46/2)

KBOA061118314 (45/1)

Blastn: *Lissodendronx arenaria* (90% 28SrRNA)**OTU 68**

Suberitidae sp. 1

Used to be *Protosuberites* sp. 1

KBOA1219165 (deep blue protosuberites) (8/2/T)

KBOA09271726 (15/2/T) (BKON-2539)

KBOA06071713 (1/2/B)

BKON-1057

BKON-1842

BKON-2667

KBOA03161844 (10/3/B)

KBOA03161858 (1/2/T)

KBOA03161836 (23/1/B)

KBOA061118086 (10/1/B)

KBOA11211768 (10/3)

KBOA01191884 (23/1)

KBOA01191888 (10/1)

KBOA01191894 (17/1)

KBOA061118085 (10/1)

Blast results: *Protosuberites mereui* (97% 28S rRNA)

OTU 69

Suberitidae sp. 2

Used to be *Protosuberites* sp. 2

KBOA06071723 (25/2/T) (blue green) (BKON-2540)

KBOA0410179 (10/1/B)

KBOA061118085 (10/1/B)

KBOA03161835 (23/2/T)

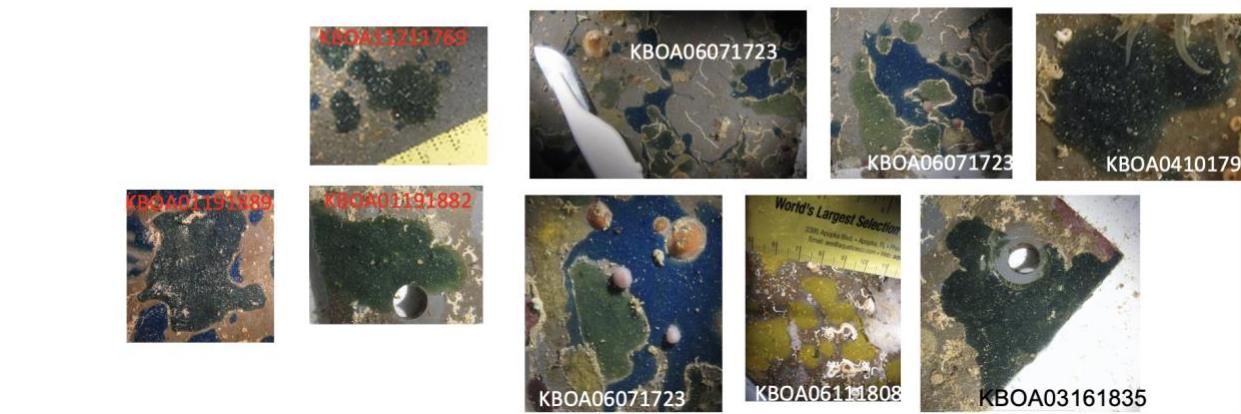
KBOA11211769 (10/2/)

KBOA01191882 (23/2)

KBOA01191889 (10/1)

Blast results: *Protosuberites mereui* (95%)

Terpios gelatinosa (97% COI)



OTU 70

Suberitidae sp. 3

Used to be *Protosuberites* sp. 3 KBOA0801173 (46/2/T)

KBOA061118508 (E/7/T)

KBOA11211716 (46/2)

Blast results: *Protosuberites mereui* (96% 28S rRNA)

Terpios gelatinosa (97%) COI

Missing museum voucher sample



OTU 71

Suberitidae sp. 4

Used to be Protosuberites sp. 4

KBOA0801174 (46/2/T) (BKON-2542)

KBOA09271713 (41/3/T)

KBOA061118474 (D/4/B)

KBOA061118443 (D/1/T)

KBOA061118351(A/4/B)

KBOA061118518 (F/2/T)

Blast: Protosuberites mereui (97% 28SrRNA)

Terpios gelatinosa (99% COI)



OTU 72

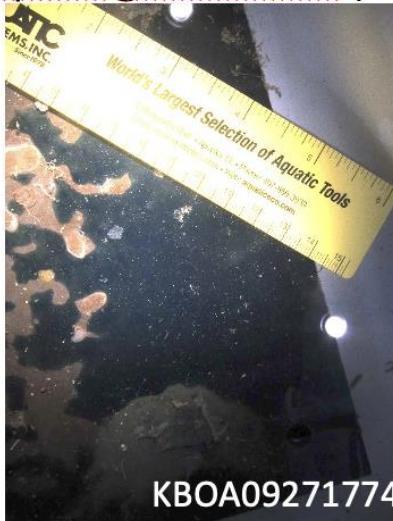
Suberitidae sp. 5

Used to be Protosuberites sp. 5

KBOA09271774 (34/1/B) (BKON-2541)

Blast: Protosuberites mereui (96% 28S rRNA)

Terpios gelatinosa (99% COI)



KBOA09271774



KBOA09271774

OTU 73

Hymeniacidon sp. 1
 KBOA12191624
 KBOA12191625 (BKON-2543)
 KBOA0410171 (23/1/T) (BKON-2544)
 KBOA08011721 (4/2/T)
 KBOA03161826 (9/3/B)
 KB111630 (BKON-2655)
 KBOA11211765 (9/3)
 KBOA01191874 (9/3/
 KBOA01191880 (23/3)

**KBOA03161826**

KBOA0410171

Blast: *Hymeniacidon heliophila* (94% 28S rRNA)

Hymeniacidon sp. 1 (94% COI)
 Likely *Hymeniacidon* sp. 1



KBOA11211765

**OTU 74**

Hymeniacidon sp. 2
 used to be *Hymeniacidon* sp. 4 (OTU 076)
 KBOA12191614
 KBOA0410173 (26/3/B)
 KBOA09271731 (15/2/T)
 KBOA09271747 (7/3/B) (BKON-2545)
 KBOA09271768 (31/3/T) (BKON-2546)
 KBOA04101712 (17/2/B) 4 bp differences from KBOA0410173 Could be a different species.
 KBOA08011737 (3/3/B)
 KBOA03161834 (23/2/T)
 KBOA03161837 (17/3/T)
 KBOA03161866 (15/3/T)
 KBOA03161876 (31/2/T)
 KBOA06071740 (4/1/B)
 KBOA1211772 (17/2/T)
 KBOA1211773 (17/2/T)
 KBOA01191892 (17/3/T)
 KBOA011918100 (26/3/T)

KBOA08011749 (17/1/B) (BKON-2548)

Blast: *Hymeniacidon heliophila* sp. (98% 28S rRNA)
Hymeniacidon sinapium (92% COI)



OTU 77

Hymeniacidon sp. 5

KBOA09271752 (3/1/B) (BKON-2549)

KBOA03161874 (3/2/T)

Blast: Terpios aploos (98% 28S rRNA)



OTU 78

Halichondria sp. 1

Used to be Halichondria sp. 2

KBOA06071749 (34/2/T) (BKON-2550) 28S/COI

KBOA061118169 (18/2/T) 28S/COI

Blast: Halichondria bowerbanki (92% 28S rRNA) OTU38

Halichondria caerulea (100% COI)



OTU 79

Halichondria sp. 2

Used to be Halichondria sp. 3

KBOA06071732 (37/1/T) (jv-1-53-22)

KBOA02131711 (37/1/?)

KBOA06071739 (4/1/T) (BKON-2551)

Blastn: Halichondria bowerbanki (94% 28S rRNA)



OTU 80

Terpios sp. 1
 KBOA0927174 (46/2/B) (iv-1-84-2)
 KBOA09271714 (41/3/T) (BKON-2552)

KBOA0801178 (41/2/T)

KBOA061118515 (F/2/T)

KBOA061118347 (A/5/T)

KBOA061118352 (A/4/T)

KBOA03161888 (21/13/T)

KBOA03161821 (44/3/B)

KBOA061118419 (B/6/T)

KBOA061118472 (D/4/T)

KBOA1121176 (44/2)

KBOA1121177 (44/3)

KBOA11211713 (41/2)

KBOA11211715 (46/

KBOA11211717 (46/

KBOA01191811 (44/

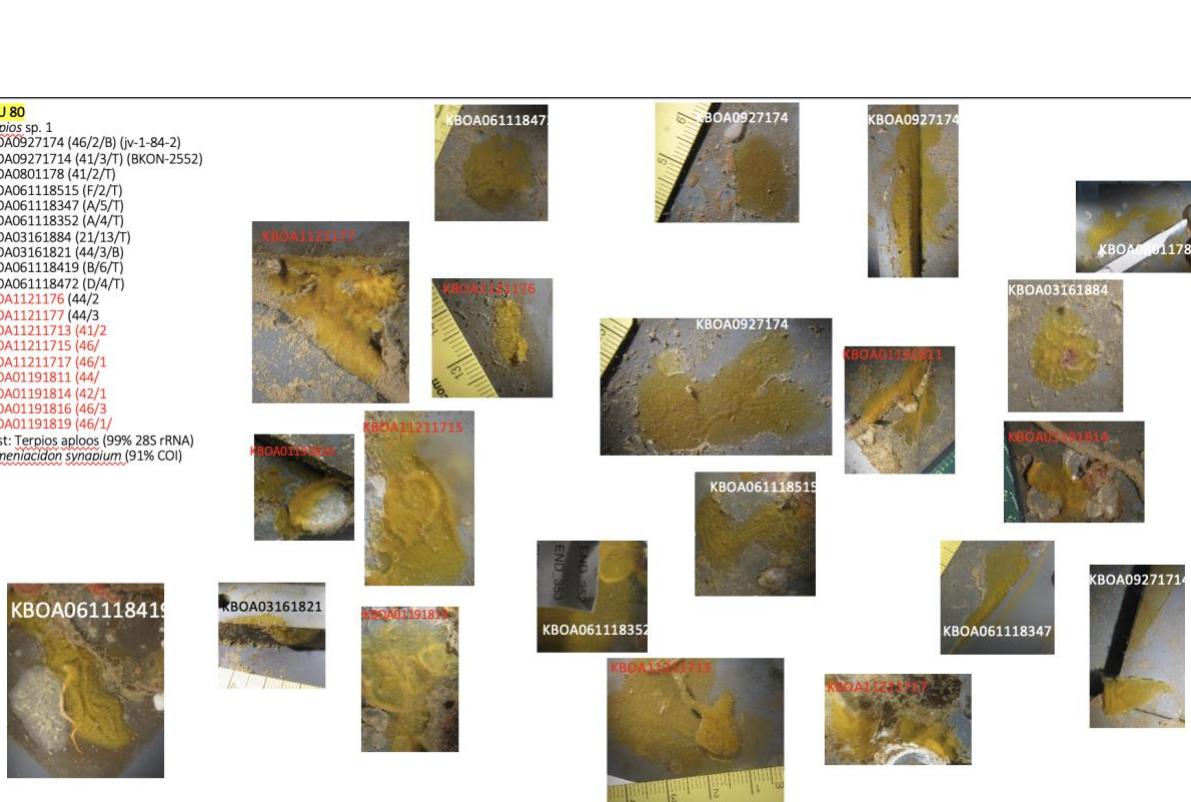
KBOA01191814 (42/1)

KBOA01191816 (46/3

KBOA01191819 (46/1/

Blast: *Terpios aploios* (99% 28S rRNA)

Hymeniacidon sympatrum (91% COI)

**OTU 82**

Oscarella sp. 1
 KBOA08011713 (43/3/B) BKON-2634

KBOA0607172 (42/1/B)

KBOA061118310 (45/1/B)

KBOA061118358 (A/3/T)

KBOA061118279 (43/2/B)

KBOA061118254 (41/1/B)

BKON-1064

BKON-1041

KBOA0927176 (43/2)

KBOA0927179 (43/2)

KBOA0119185 (43/2)

KBOA0119186 (43/3)

KBOA0316184 (43/2)

KBOA03161816 (45/

KBOA061118280

KBOA061118282 (43/3

KBOA061118309 (45/1

Blast: *Oscarella pearsei* (88% 28S rRNA)

Oscarella viridis (94% COI)

KBOA061118282

KBOA0119186



OTU 83

Oscarella sp. 2

KBOA08011744 (31/2/B) (BKON-2635)

KBOA061118123 (37/1/B)

KBOA061118431 (C/1/T)

KBOA061118129 (37/2/T)

KBOA061118182 (34/1/B)

Blast: Oscarella nicolae (85% 28S rRNA)



OTU 84

Oscarella sp. 3

KBOA08011745 (9/2/B) BKON-2637 (28S rRNA)

KBOA09271754 (3/2/B) BKON-2636 (28S rRNA)

KBOA06111874 (9/1/B) COI

KBOA061118141 (22/1/B) (28S rRNA)

KBOA061118109 (23/2/B)

KBOA061118098 (23/1/B)

KBOA09271785 (9/3)

Blast: Oscarella lobularis (95.61 % 28S rRNA)

Oscarella lobularis (98.80 % COI complete subunit I)

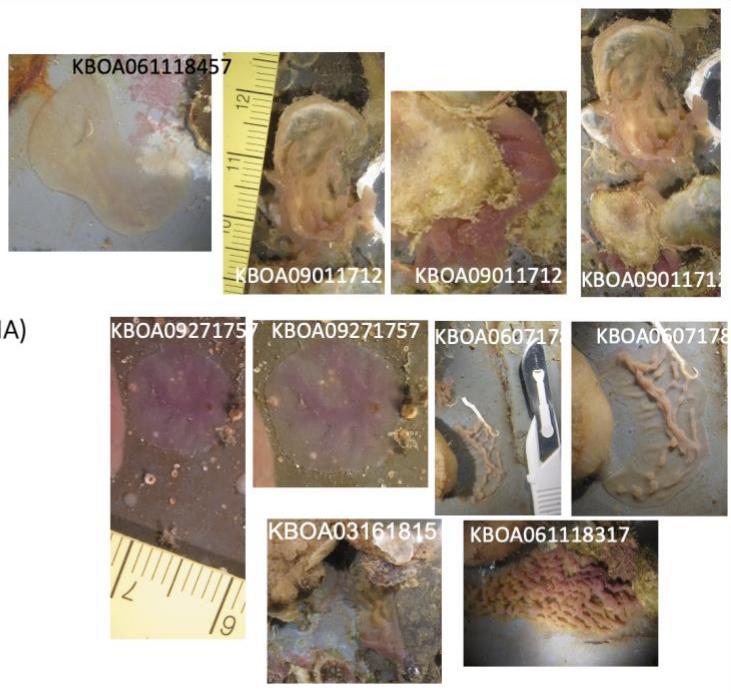


OTU 85

Oscarella sp. 4

KBOA0607178 (45/2/B) (JV-1-53-8)
KBOA09011712(43/1/T)(BKON-2638)
KBOA09271757 (22/2/B)
KBOA061118470 (D/3/B)
KBOA061118457 (D/2/B)
KBOA061118140 (22/1/B)
KBOA061118317 (45/2/B)
KBOA03161815 (45/3/T)

Blast: Oscarella tuberculata (86.51% 28S rRNA)

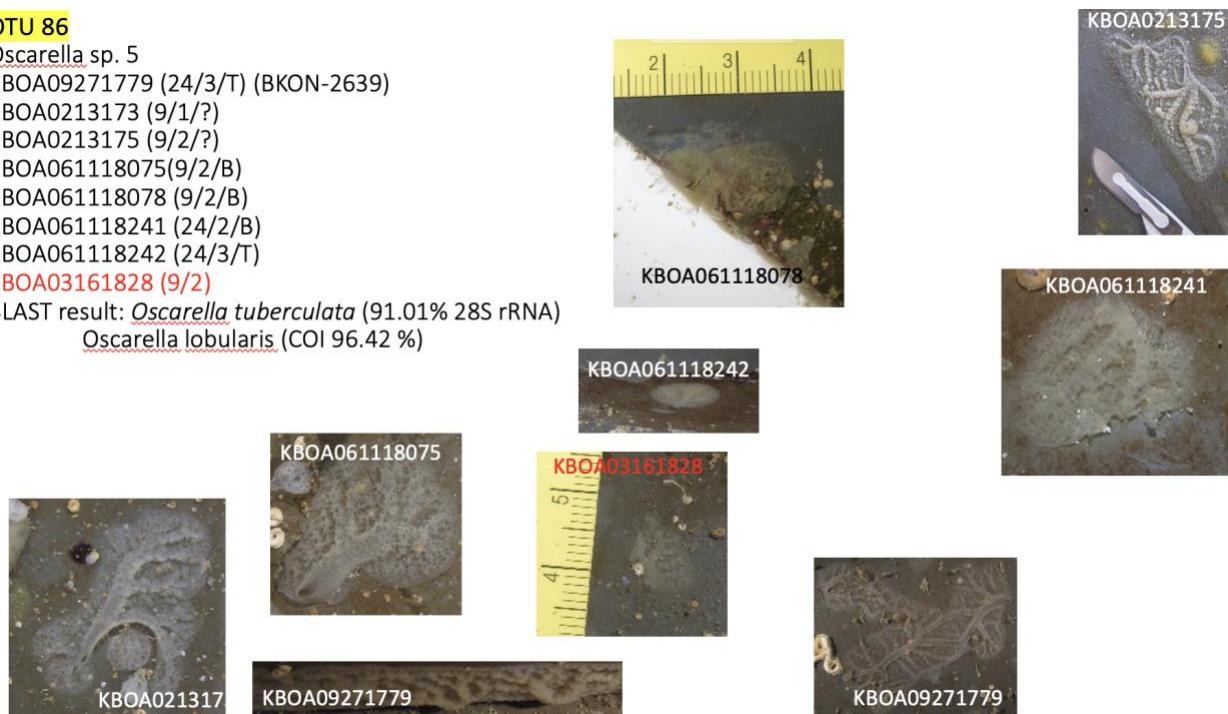


OTU 86

Oscarella sp. 5

KBOA09271779 (24/3/T) (BKON-2639)
KBOA0213173 (9/1/?)
KBOA0213175 (9/2/?)
KBOA061118075(9/2/B)
KBOA061118078 (9/2/B)
KBOA061118241 (24/2/B)
KBOA061118242 (24/3/T)
KBOA03161828 (9/2)

BLAST result: Oscarella tuberculata (91.01% 28S rRNA)
Oscarella lobularis (COI 96.42 %)



OTU 87

Plakina sp. 1

KBOA06071743 (20/1/B) (BKON-2501)

KBOA06071744 (20/1/B)

KBOA08011738 (8/1/B) (BKON-2640)

KBOA061118154 (8/1/B)

KBOA061118382 (A/7/B)

KBOA061118387 (A/8/B)

KBOA061118386 (A/7/B)

KBOA061118458 (D/2/B)

KBOA061118264 (41/2/B)

KBOA061118398 (B/2/T)

Blast: *Plakina crypta* (91% 28S rRNA)

Plakina monolopha (96% COI)



OTU 88

Plakortis sp. 1

KBOA06071747 (22/1/B) (BKON-2502)

KBOA06071748 (22/2/B) JV-1-61-12 (BKON-2503)

KBOA09271758 (22/2/B)

KBOA061118413 (B/4/B)

KBOA061118469 (D/3/B)

KBOA0119188 (45/2)

Blast: *Plakortis halichondrioides* (91% 28S rRNA)

Plakortis halichondrioides (96% COI)



OTU91

Leucosolenida sp. 9

Used to be *Sycon* sp. 8

KBOA061118068 (25/2/B)

KBOA061118038 (36/1/B)

KBOA061118039 (36/1/B)

KBOA061118138 (3/2/B)

KBOA01191822 (21/2/B)

KBOA061118230 (21/2/B)

Blastn: *Syconessa panicula* 98% 28SrRNA

Missing FMNH catalogue number



OTU93

Tethyidae sp. 1

KBOA11211775 (7/2/T)

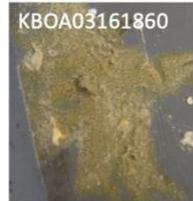
KBOA03161860 (7/3/B))

KBOA061118032 (7/2/T) COI and 28S

Blastn: *Axos cliftoni* (95% 28S rRNA)

Liosina blastifera voucher Po.25551 (COI COXR1)

Missing FMNH catalogue number



OTU95

Lissodendoryx sp. 1

KBOA11211758 (16/2/T)

Blastn: Lissodendoryx sigmata (98% 28SrRNA)

Missing FMNH catalogue number



KBOA11211758



KBOA11211758

OTU96

Halicona (Gellius) pahua

Halicona sp. 11

04102017 UNIT 24/3/B

KBOA061118124 (37/1/B)

KB111627 (BKON-2663)

KBOA11211763 (37/3)

KBOA061118124 (37/1)

Halicona plakophila COI

Used to be Haplosclerida sp. 22, OTU205, Haplosclerida sp. 10?

KBOA0410178 (37/3/B) (Ambient)

missing COI and 28S

28S came back as polychaete 1072RV.

SEM in progress

note: going to be difficult to reextract DNA so we are trying COI



OTU 97

Cladocroce sp. 1

Used to be *Cladocroce burapha*, *Halicona* sp. 1 and *Cladocroce* sp. 1 used to be OTU 121 (KBOA061118481)

KBOA061118110 (23/3/T)

KB111610 (BKON-2650)

BKON-1047 UF 3747 (28S rRNA/COI)

BKON-2744

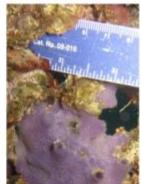
KBOA061118481 (D/5/T)

KB0918211

blastn: Blastn: 99 % *Cladocroce burapha* KY565331 (CoxR1)

99% *Cladocroce* sp. GPM-2011 (28S rRNA) [JN179001.1](#)

in ARMS study



23/3/T



OTU98

Leucosolenida sp. 18

Used to be Leucosolenida sp. 9

KBOA061118023 (15/1/B)

Blastn: *Sycon carteri* 28S rRNA

Missing FMNH catalogue number



OTU101

Poecilosclerida sp. 4

KBOA061118017 (1/3/T)

KBOA061118375 (A/6/T)

Blastn: *Lissodendoryx fibrosa* (100%/88.87% 28SrRNA) (C2-D2)

Lissodendoryx arenaria (94.79 % 28S rRNA)

Missing FMNH catalogue number



OTU102

Poecilosclerida sp. 5

KBOA03161851 (37/3/T) 63modf

KBOA061118128 (37/2/T) c3

Blastn: *Lissodendoryx fibrosa* (100%/88.87% 28SrRNA)

Strongylacidon bermudae 97.43 % COXR1/COI 1490

Missing FMNH catalogue number



OTU 104

Oscarella sp. 6

KBOA061118094 (17/1/B) COI /28S rRNA

KBOA061118097 (17/3/B)

KBOA061118255 (41/1/B)

KBOA061118116 (26/1/B)

KBOA1121176 (44/2)

KBOA01191891 (17/3)

KBOA01191896 (17/1)

Blastn: *Oscarella tuberculata* 100%/84.92 28SrRNA

Oscarella microlobata (95.42 % COI) COImlCOInt

Missing FMNH catalogue number



Haplosclerida sp. 21

Used to be subclass Heteroscleromorpha sp. 3

KBOAEND33 (7/3/T)

blastn 28S G. wilsoni 85% identity

OTU103



OTU106

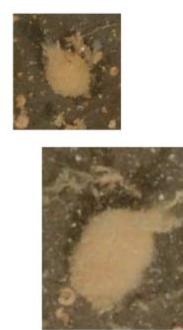
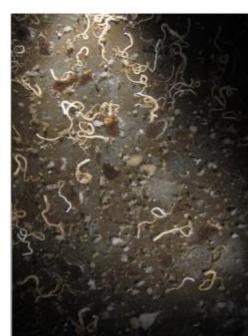
Leucosolenida sp. 22

Used to be 100

KBOA061118178 (34/1/B)

Blastj: Sycon villosum (91.5% 28S rRNA)

Missing FMNH catalogue number



OTU109

Lissodendoryx sp. 2

KBOA061118107 (23/2/T) 28S rRNA/ COI COXR1

Blastn: Lissodendoryx sigmata (97.33, KC869509, 28S rRNA)

Lissodendoryx hawaiiana (96 % COI)

Missing FMNH catalogue number



KBOA061118107



KBOA061118107

OTU111

Haplosclerida sp. 13

KBOA061118422 (B/7/T)

KBOA03161862 (7/2/B)

Blast: Niphates olemda POR14449 (95.80% 28S rRNA)

Missing FMNH catalogue number



KBOA03161862

Haplosclerida sp. 20

KBOA04101718 (24/3/T) HTACO2

Thought to be Haplosclerida sp. 3 but has different spicule composition

130 bp of sequence with 63modF but not enough to identify.

SEM in progress

Blastn: 28S 300RV Haliclona sp. 100/98%

OTU 204

