

Hard Corals of the Coral Sea

An illustrated overview of 147 species and 60 genera of hard corals observed in the Coral Sea

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August 2020

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The Coral Sea Marine Park is vast and vastly underexplored. The following pages include a series of images of the shallow water coral fauna of the region based on three short voyages between 2016 and 2019. They are necessarily preliminary given the limited time spent at sea. The species names are as current as possible against a constantly changing taxonomy that will continue in a state of flux for many years. Nonetheless, we hope these images and the voucher collections soon to be deposited in Museum of Tropical Queensland will assist future research in the Coral Sea.

In the course of our travels we recorded approximately 259 species: 222 in the southern Coral Sea: 108 in the central Coral Sea; and 162 in the northern Coral Sea (Fig. 1). Species were identified by comparison to the relevant type material rather than taxonomic revisions which have recently been proven to be completely unreliable. Field images of 147 species, from 60 genera and 11 families are presented. These include a number of species that are likely to be new to science. Seventy-three species were found in all three regions indicating that there is considerable overlap among the different regions. Nonetheless, ~15% of the species record in the northern Coral Sea were found only in this region and ~25% of the species in the southern Coral Sea were found only in this region (Fig. 1), suggesting that there is some provincialism within the Coral Sea. Preliminary phylogenomic work suggests that the coral fauna of the southern Coral Sea has much stronger affinities with the coral fauna in the Tasman Sea and the southern Great Barrier Reef than with the central and Northern Great Barrier Reef. These preliminary biogeographical hypotheses require testing with future quantitative surveys at the species level.

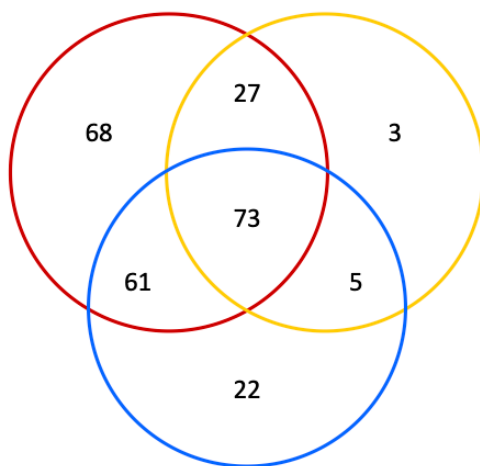


Fig 1. Provincialism in the Coral Sea. Values are the number of species; red circle = southern Coral Sea; yellow = central Coral Sea; blue = northern Coral Sea. The total number of species recorded was 259.

Acknowledgements:

This research was jointly funded by the Director of National Parks, Australia and the ARC Centre of Excellence for Coral Reef Studies. This research was conducted in the Coral Sea Marine Park under Permit No. AU-COM2018-437 and AU-COM2016-335. We thank Peter Sayre and crew of the MV Phoenix and Rob Benn and crew of the Iron Joy for looking after us at sea and Hanaka Mera for help with design and formatting of the document and images. The findings and views expressed are those of the authors and do not necessarily represent the views of Parks Australia, the Director of National Parks or the Australian Government.

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ACROPORIDAE

Acropora cf abrotanoides



Acropora chesterfieldensis



Acropora aff hyacinthus



ACROPORIDAE

Acropora cf kenti



Acropora cf lutkeni



Acropora aff nasuta



ACROPORIDAE

Acropora cf otteri



Acropora aff paniculata

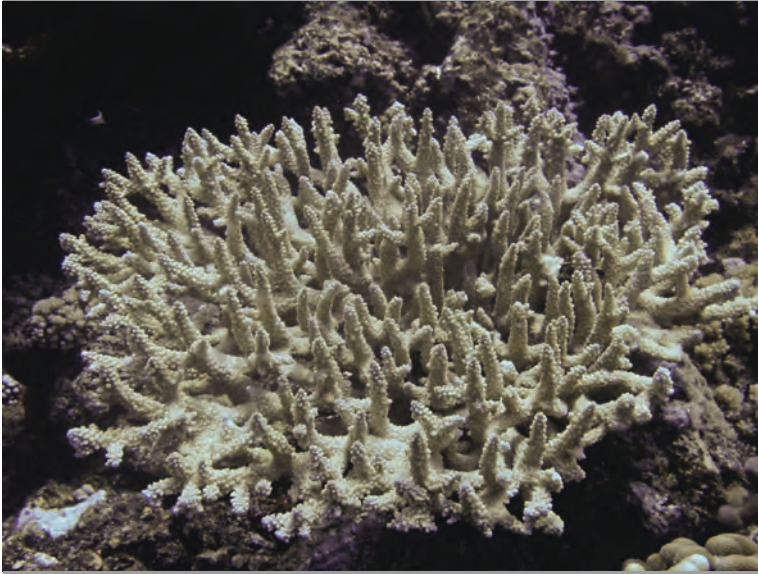


Acropora cf pectinatus



ACROPORIDAE

Acropora solitaryensis



Acropora cf squamosa



Acropora verweyi



ACROPORIDAE

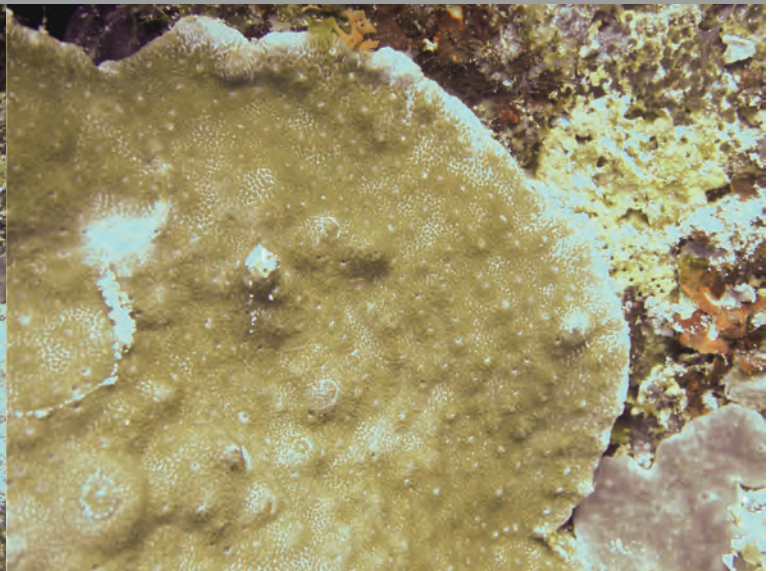
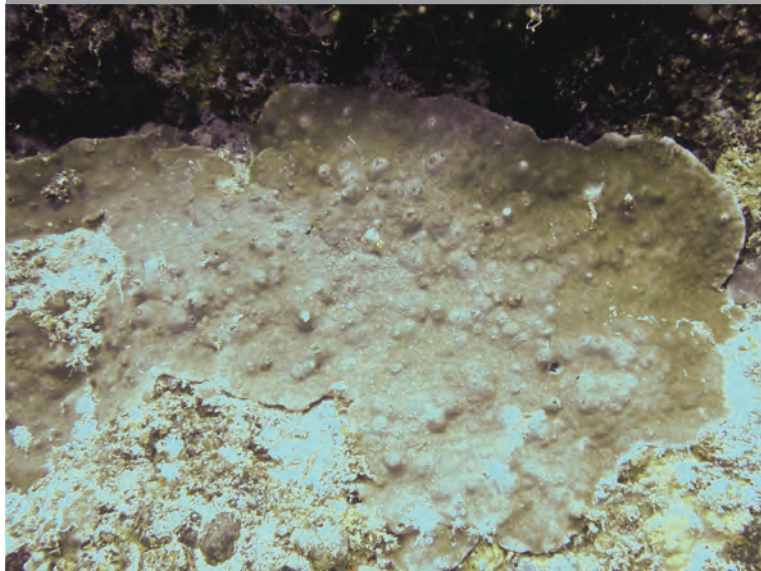
Alveopora cf spongiosa



Alveopora cf verrilliana



Astreopora cf mortonensis

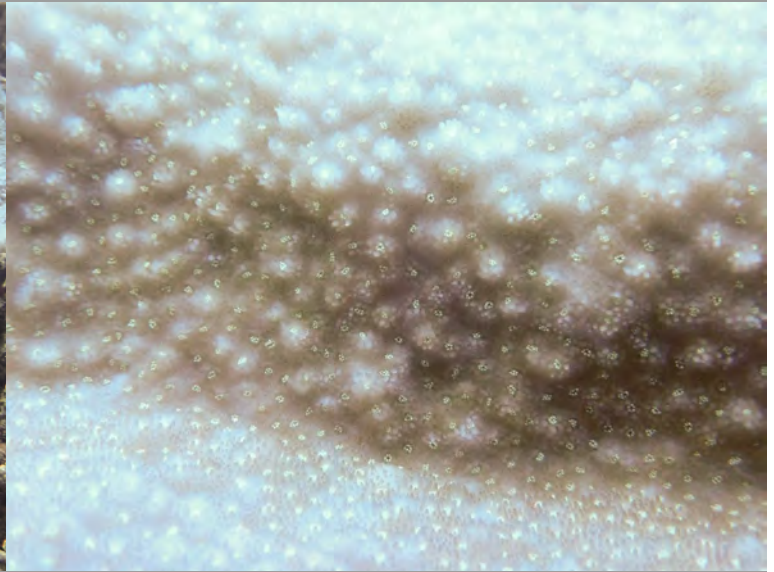
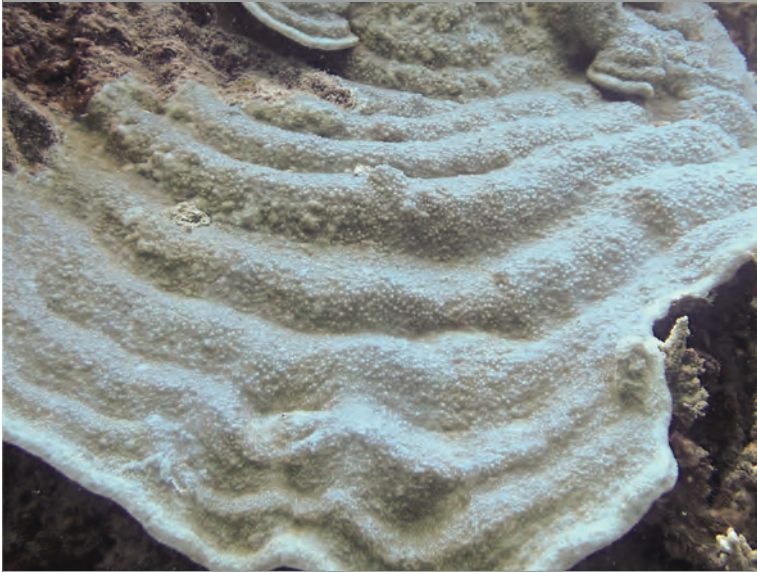


ACROPORIDAE

Astreopora aff myriophthalma



Montipora cf australiensis



Montipora cf calcarea



ACROPORIDAE

Montipora cf caliculata



Montipora aff spongodes



Montipora cf sulcata



AGARICIIDAE

Pavona maldivensis



Pavona varians



Pavona venosa



AGARICIIDAE

Pavona duerdeni



Pavona explanulata



Pavona bipartita

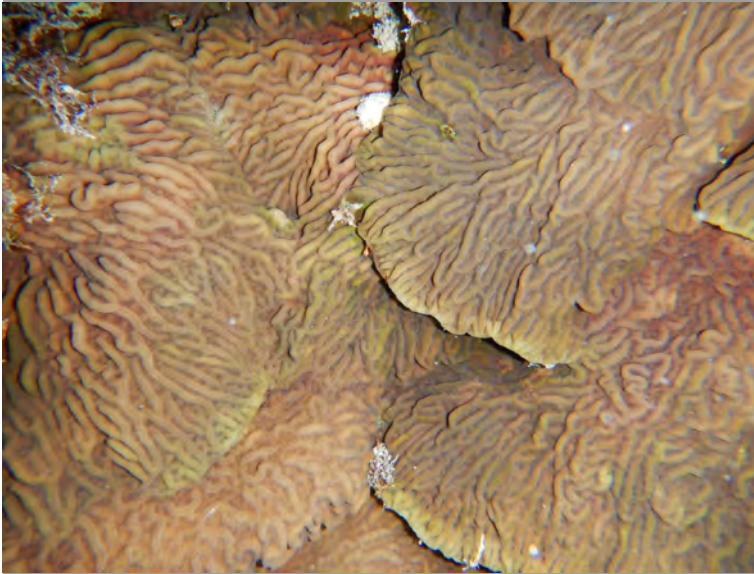


AGARICIIDAE

Pavona minuta



Pavona aff varians

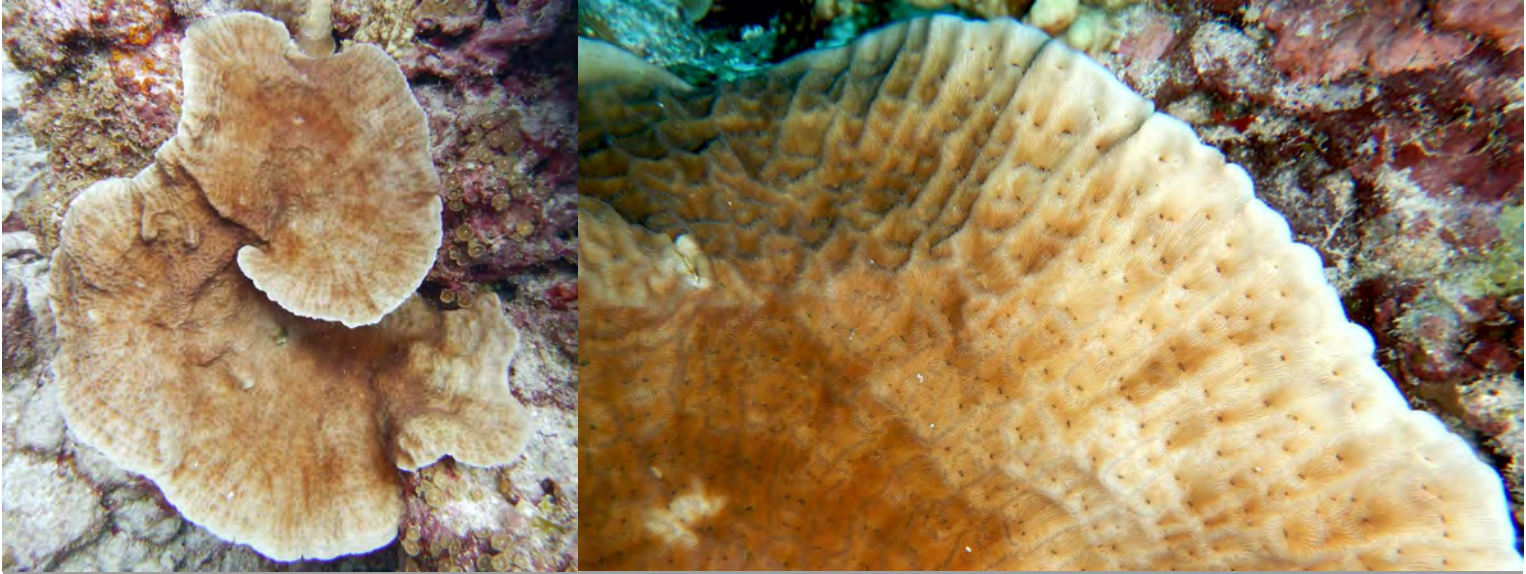


Gardineroseris planulata



AGARICIIDAE

Leptoseris yabei



Leptoseris glabra



Leptoseris scabra



AGARICIIDAE

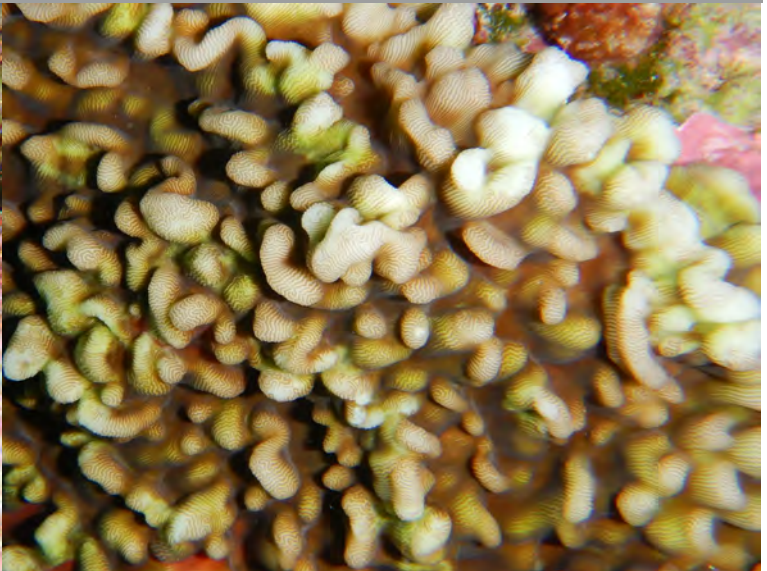
Leptoseris mycetoseroides



Leptoseris tubulifera



Leptoseris incrustans

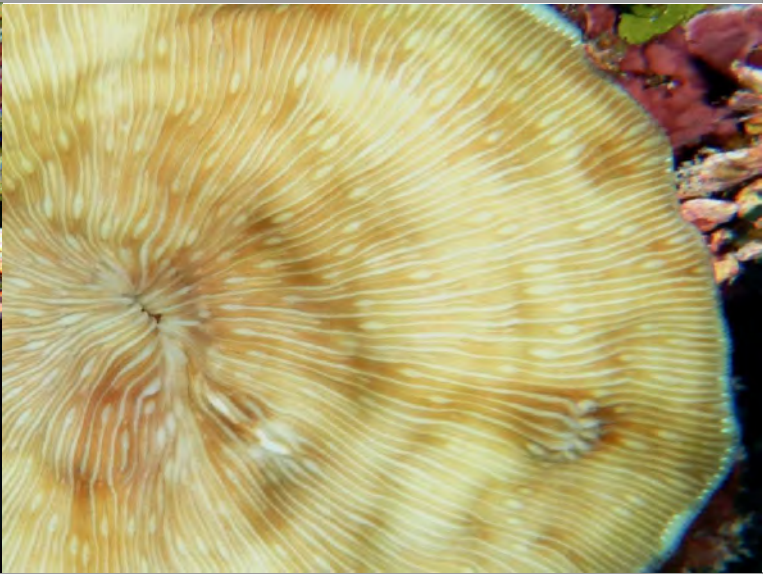


AGARICIIDAE

Leptoseris aff *mycetoseroides*



Leptoseris cf *striatus*



Leptoseris aff *incrustans*

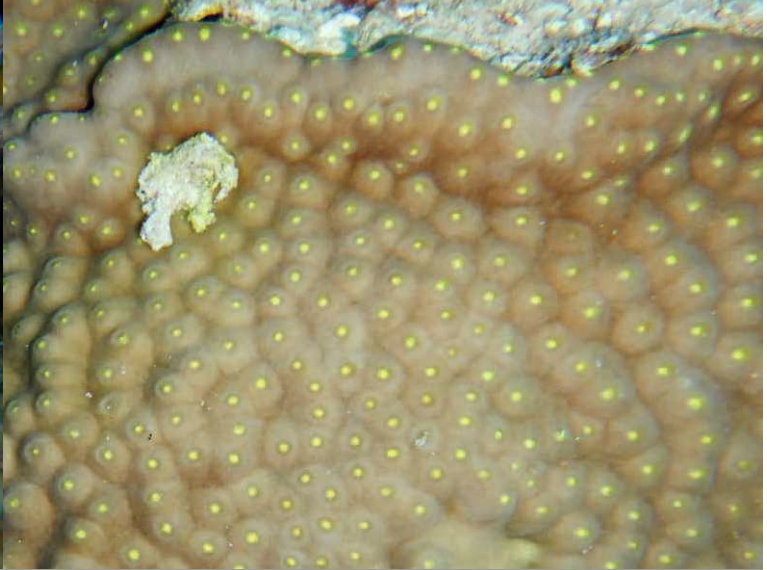


DENDROPHYLLIIDAE

Turbinaria mesenterina



Turbinaria reniformis



Turbinaria stellulata

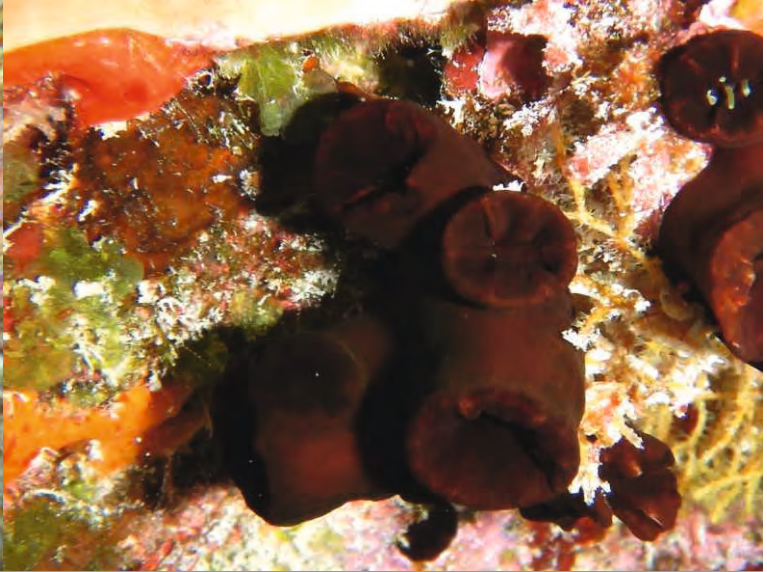


DENDROPHYLLIIDAE

Rhizopsammia verrilli



Tubastraea micranthus



Tubastraea sp. 1



Tubastraea sp. 2



EUPHYLLIIDAE

Euphyllia glabrescens



Euphyllia cristata



Euphyllia divisa

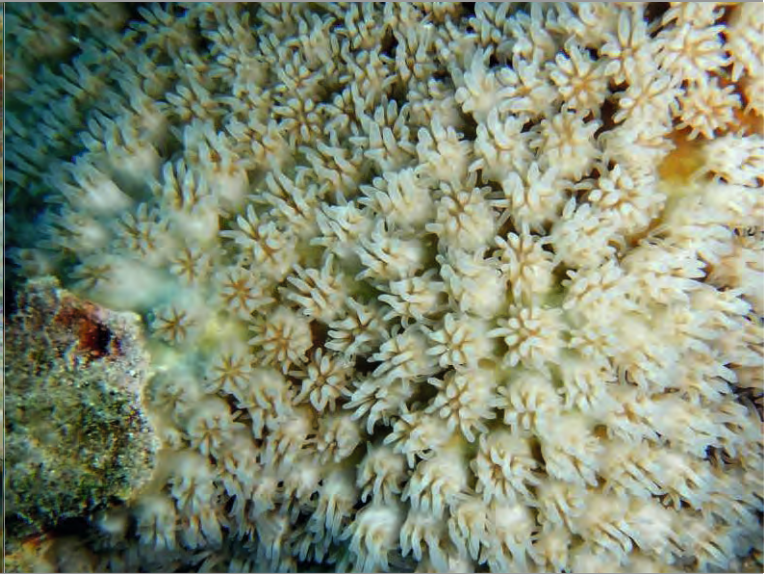
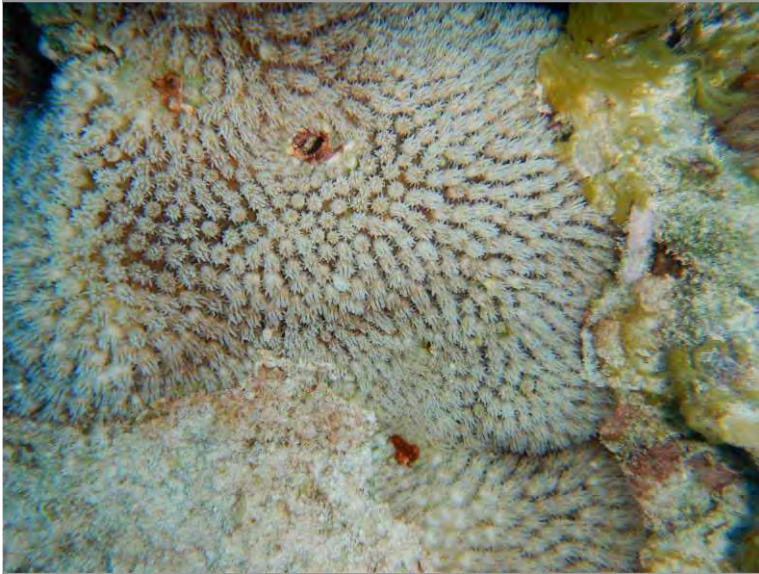


EUPHYLLIIDAE

Galaxea fascicularis



Galaxea astreata



Galaxea horrescens



PORITIDAE

Porites flavus



Porites rus



Porites lichen



PORITIDAE

Porites myrmidonensis



Porites cylindrica



Porites cf tuberculatus



PORITIDAE

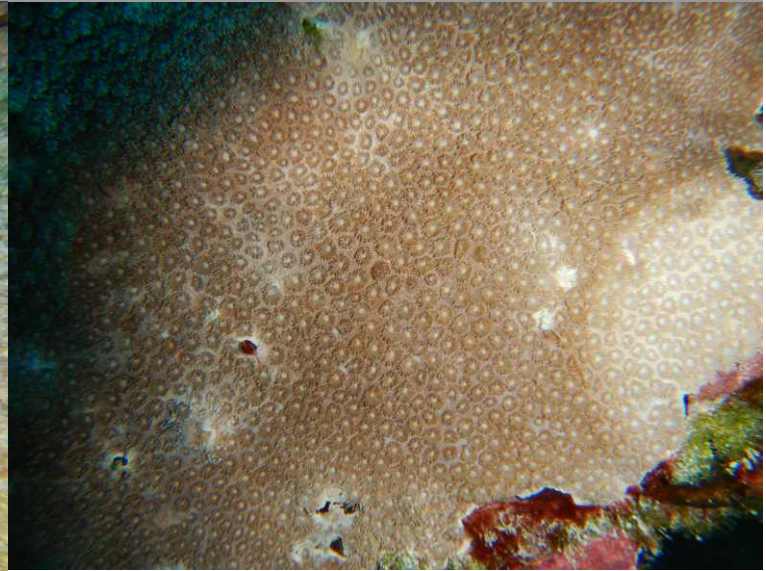
Porites solida



Porites lutea



Bernardpora stutchbury



INCERTAE SEDIS

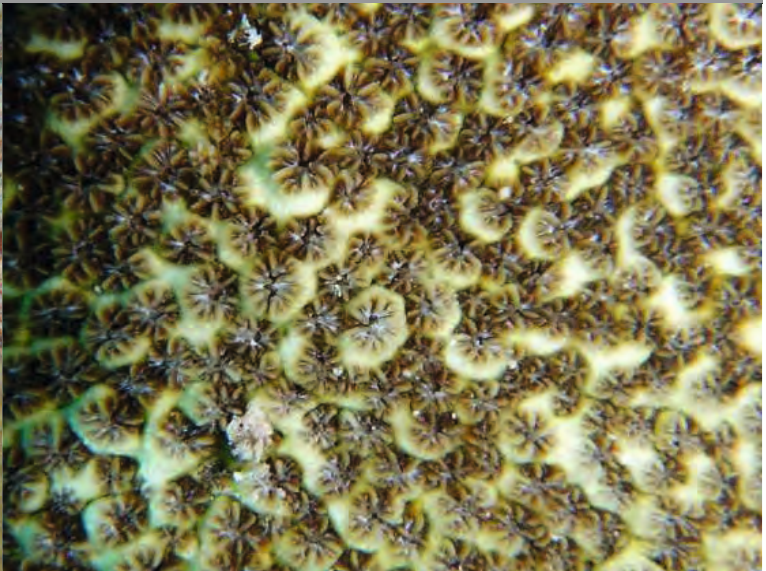
Leptastrea purpurea



Leptastrea transversa

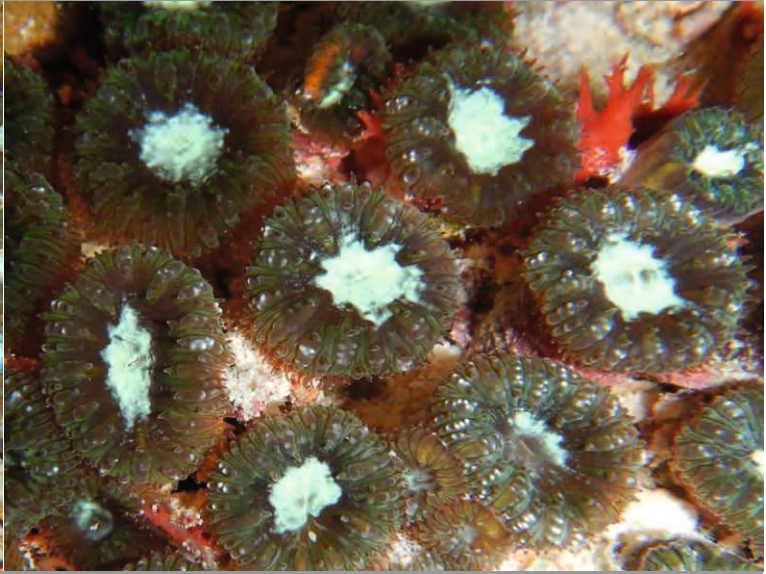


Leptastrea gibbosa



INCERTAE SEDIS

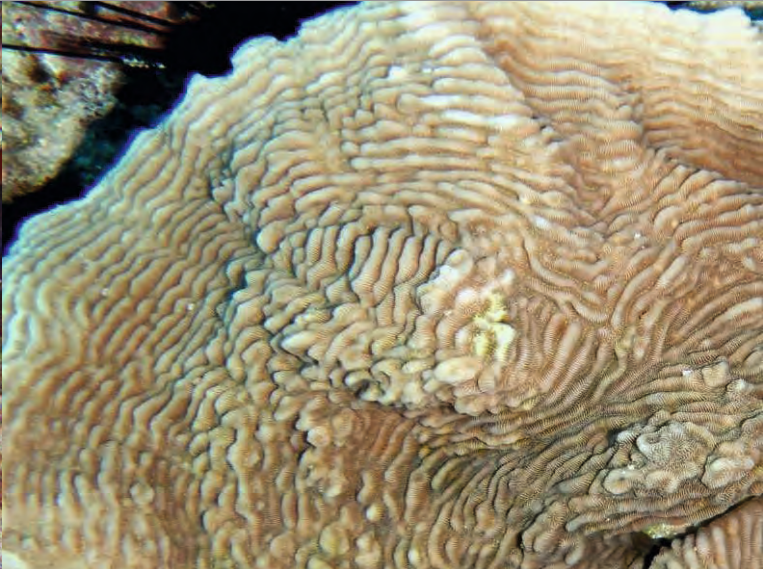
Blastomussa wellsii



Plerogyra sinuosa



Pachyseris speciosa



MERULINIDAE

Merulina ampliata



Scapophyllia cylindrica



Hydnophora exesa



MERULINIDAE

Hydnophora microconus



Astrea annuligera



Astrea curta



MERULINIDAE

Oulophyllia crista



Paragoniastrea australensis



Paragoniastrea russelli



MERULINIDAE

Mycedium elephantotus



Goniastrea stelligera

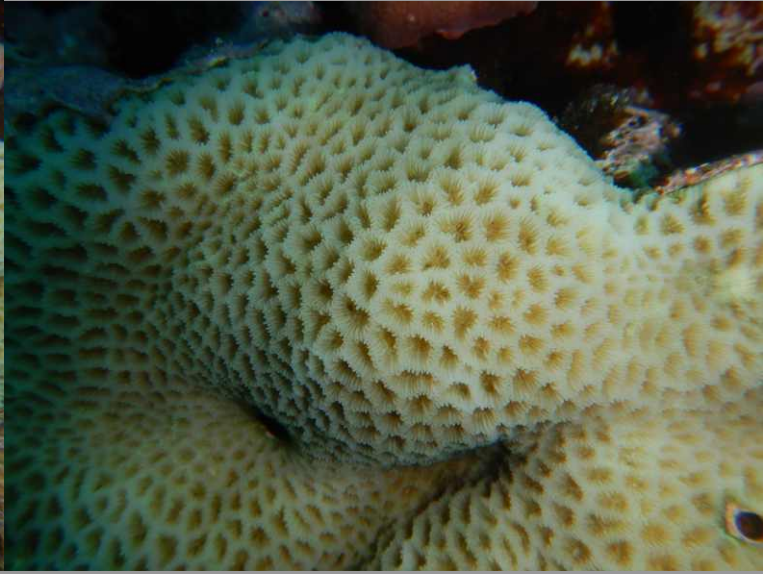


Goniastrea retiformis



MERULINIDAE

Goniastrea edwardsi



Goniastrea pectinata



Goniastrea favulus



MERULINIDAE

Coelastrea aspera



Echinopora hirsutissima



Echinopora lamellosa



Echinopora gemmacea



Echinopora pacifica



MERULINIDAE

Favites rotundata



Favites valenciensi



Favites abdita



MERULINIDAE

Cyphastrea serailia



Cyphastrea sp



Cyphastrea microphthalma

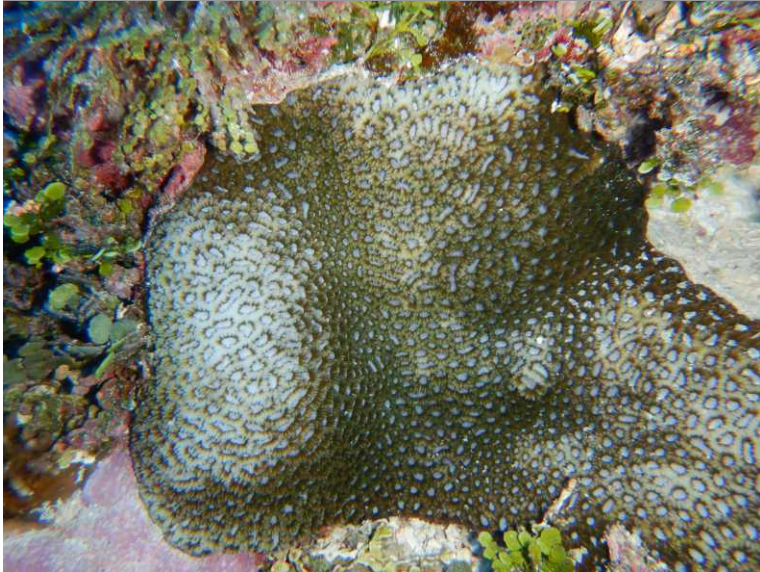


MERULINIDAE

Leptoria phrygia



Platygyra pini



Platygyra daedalea

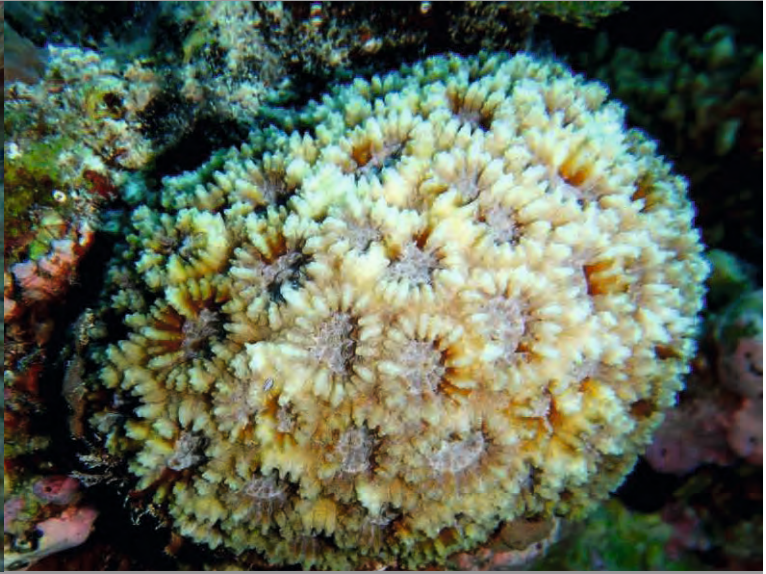


MERULINIDAE

Dipsastraea favus



Dipsastraea matthaii



Dipsastraea truncata



Dipsastraea pallida



MERULINIDAE

Dipsastraea helianthoides



Dipsastraea maxima



Dipsastraea rotumana



LOBOPHYLLIIDAE

Acanthastrea echinata



Echinophyllia aspera

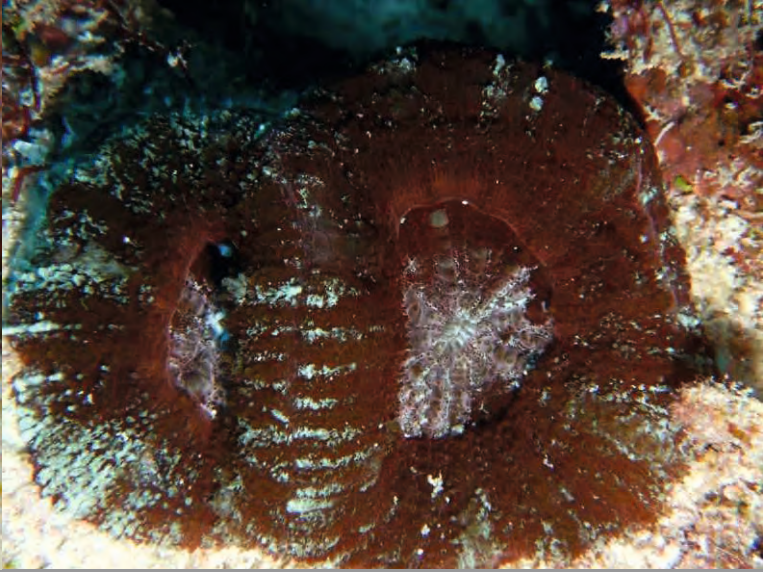


Oxypora lacera



LOBOPHYLLIIDAE

Micromussa pacifica



Homophyllia australis



Lobophyllia hemprichii

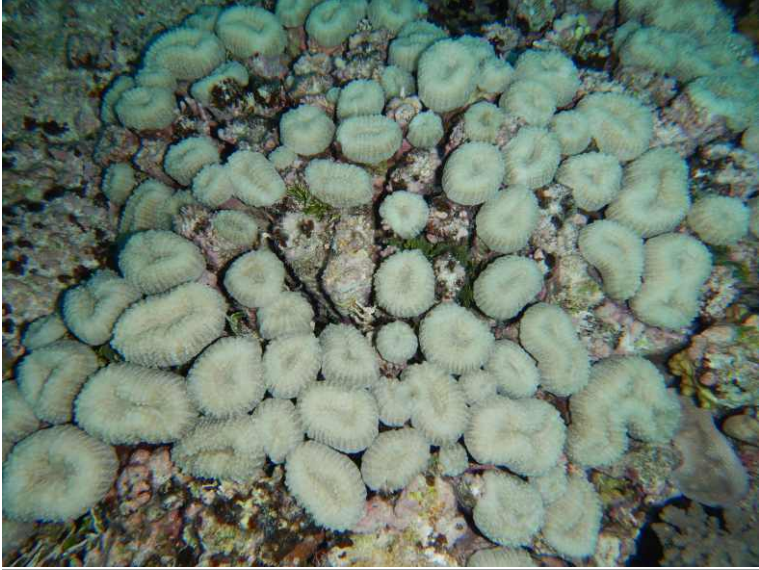


Lobophyllia vitiensis



LOBOPHYLLIIDAE

Lobophyllia corymbosa



Lobophyllia agaricia



Lobophyllia recta



Lobophyllia radians



FUNGIIDAE

Fungia fungites



Lobactis scutaria



Pleuractis paumotensis



FUNGIIDAE

Pleuractis granulosa



Pleuractis gravis



Heliofungia actiniformis



Cycloseris cyclolithes

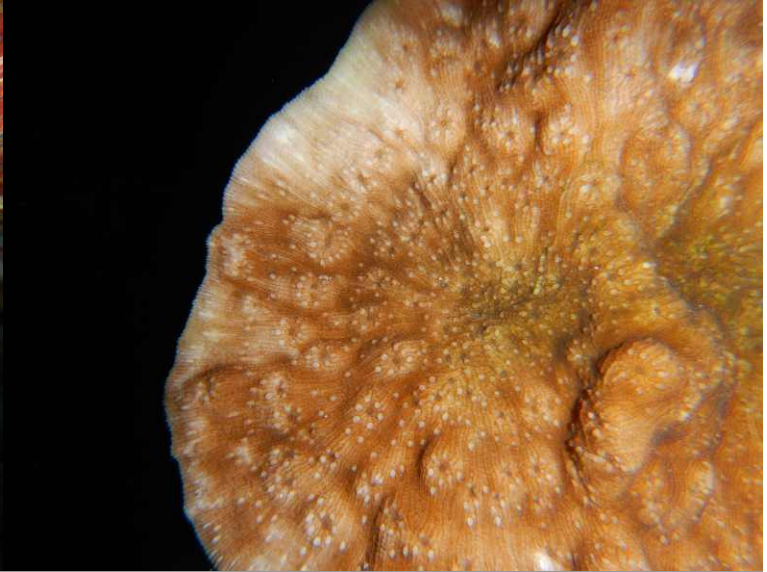
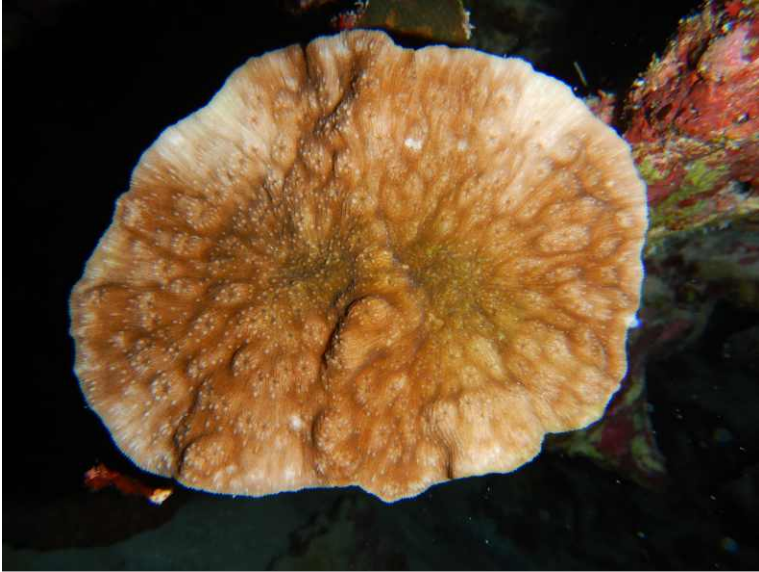


FUNGIIDAE

Cycloseris costulata



Cycloseris wellsi



Cycloseris explanulata



FUNGIIDAE

Cycloseris somervillei



Podabacia motuporensis



FUNGIIDAE

Danafungia horrida



Danafungia scruposa



Sandalolitha dentata

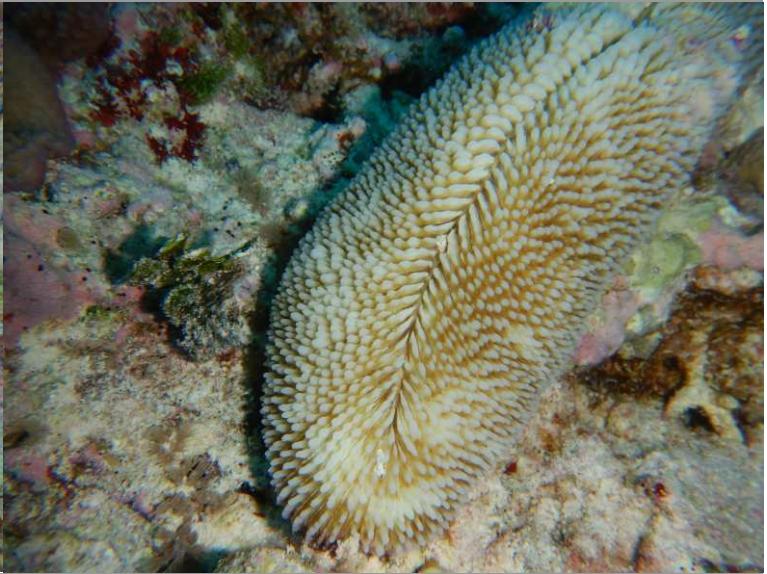


FUNGIIDAE

Herpolitha limax



Ctenactis echinata



Polyphyllia talpina

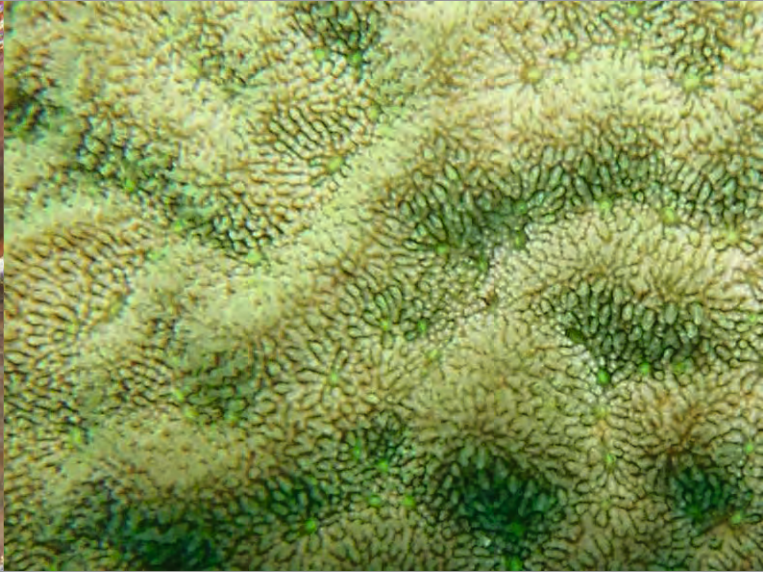
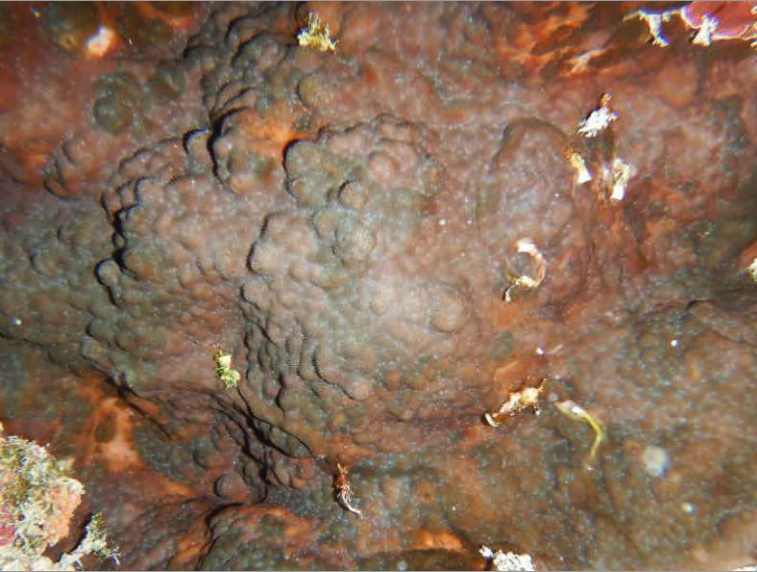


PSAMMOCORIDAE

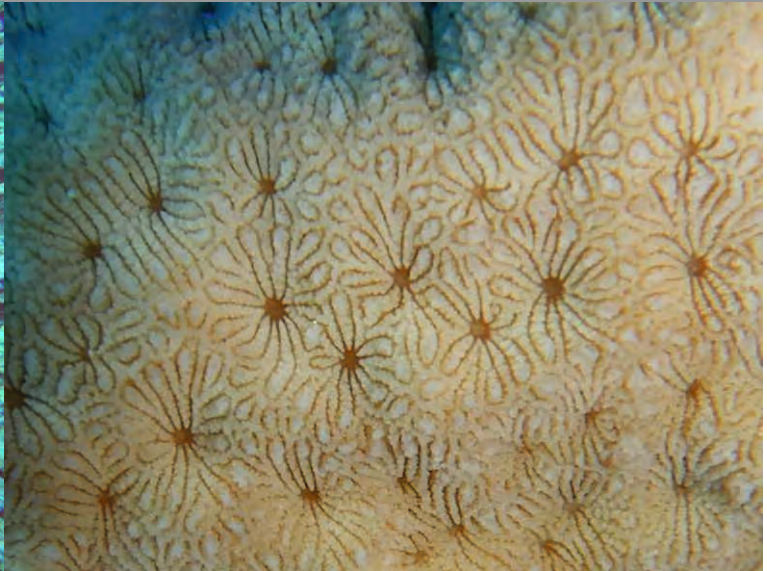
Psammocora profundacella



Psammocora nierstraszi



Psammocora digitata



COSCINARAEIDAE

Coscinaraea cf exesa



Coscinaraea cf columna



Coscinaraea aff columna



POCILLOPORIDAE

Pocillopora verrucosa



Pocillopora eydouxi



Pocillopora damicornis

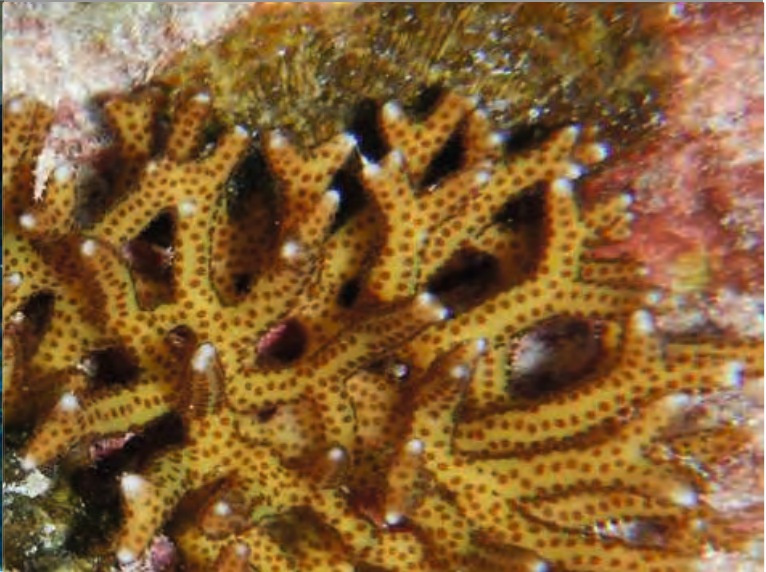


POCILLOPORIDAE

Pocillopora meandrina



Seriatopora hystrix



Seriatopora caliendrum

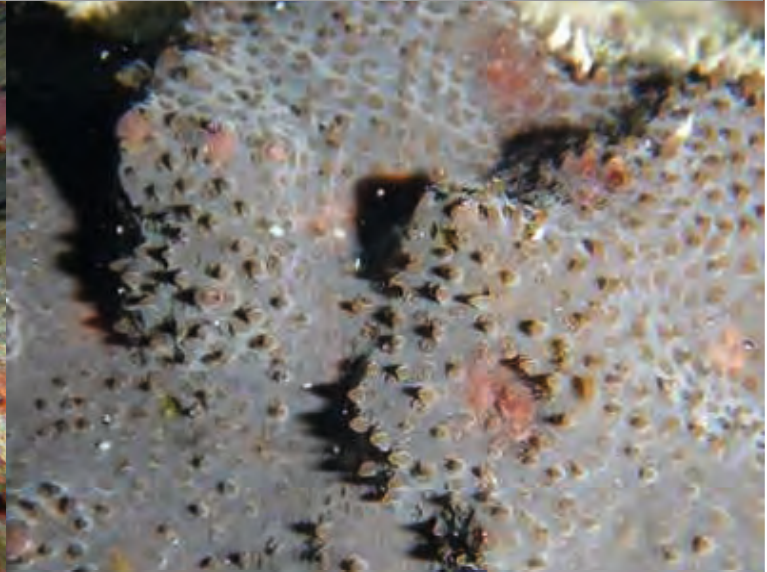
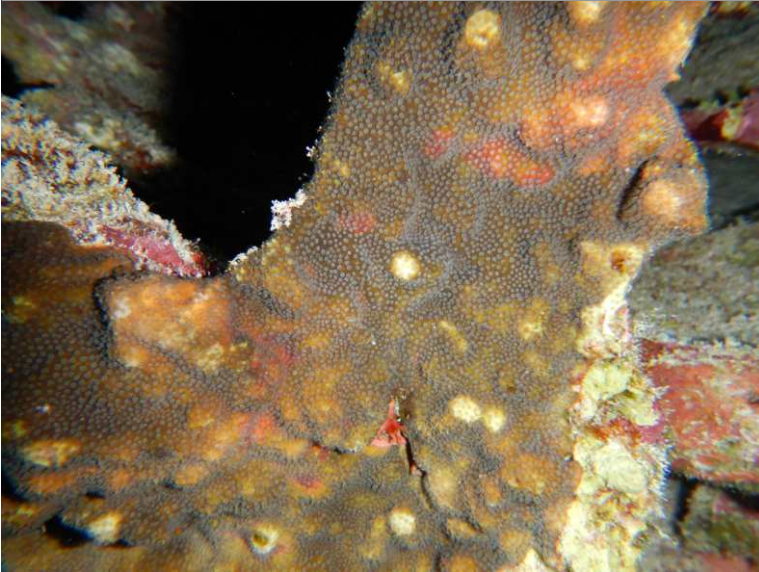


POCILLOPORIDAE

Stylocoeniella armata



Stylocoeniella guentheri



Stylophora pistillata



NON SCLERACTINIAN CORALS

Millepora platyphylla



Millepora dichotoma



Millepora squarrosa



NON SCLERACTINIAN CORALS

Conopora sp.



Distichopora sp.



Stylaster sp.



NON SCLERACTINIAN CORALS

Tubipora musica

