



NUDIBRANCH

EVERYONES FAVOURITE
PARTY SLUG

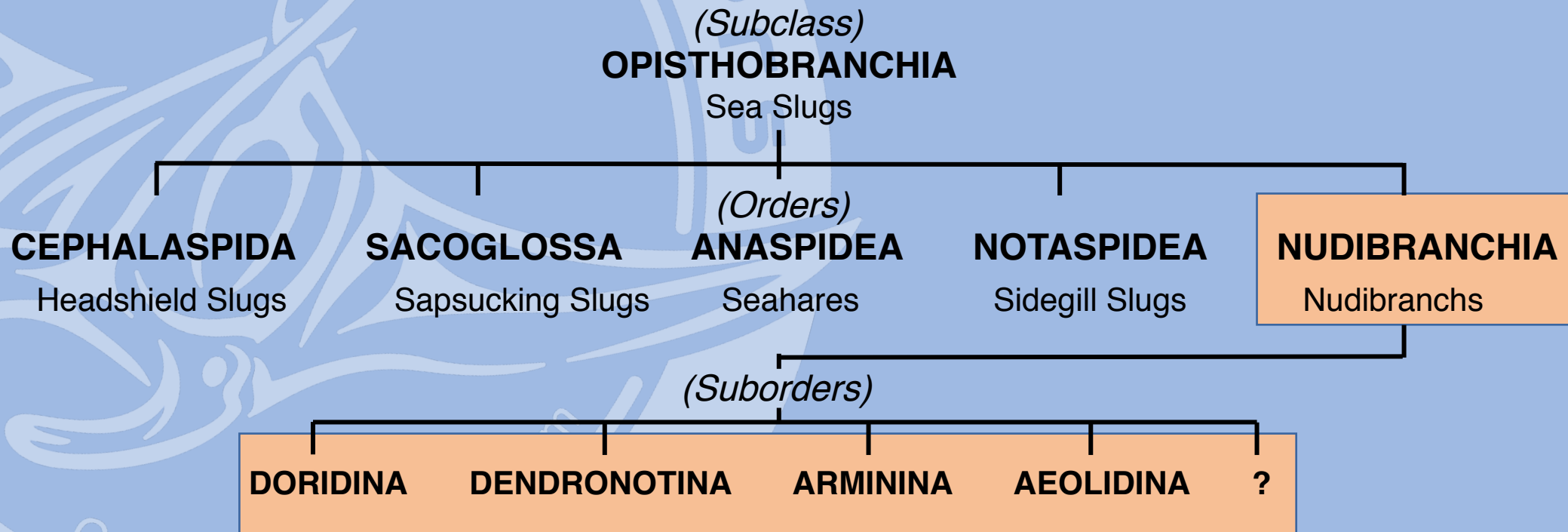
Georgina Hayes

PADI SI #411108

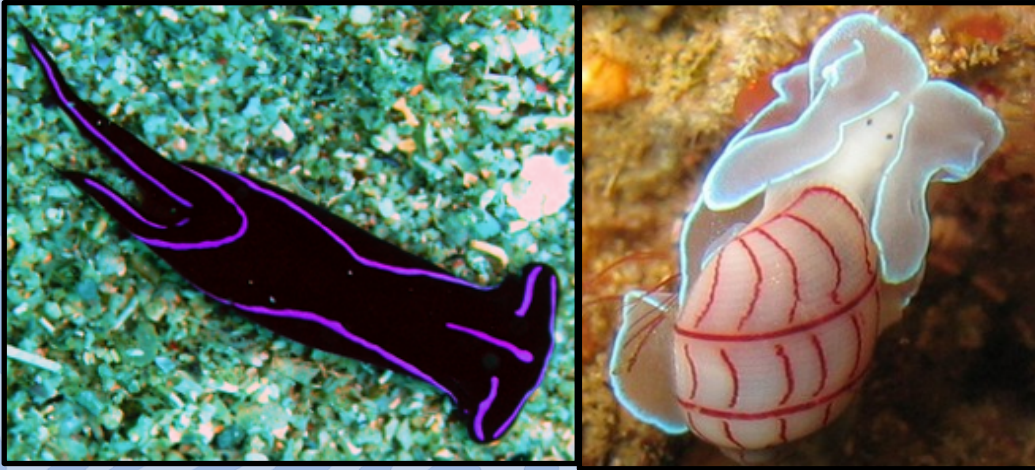
BSc Hons. Zoology

NOT EVERY SEA SLUG IS A NUDI

- The word “nudibranch” is often misused to refer to all of the animals in the subclass Opisthobranchia, a subclass of the class gastropoda and of the mollusc phylum. Mollusca derives from the latin word *mollus* meaning “soft-bodied”
- Opisthobranchia means sea slugs with a reduced/no and chemical defences.



HONOURABLE MENTIONS



(fr.wikipedia.org, 2019)

Sacoglossa

(Sapsucking slugs)

- Use a muscular pump to suck fluid from algal cells
- Small and difficult to find

Cephalopoda

(Headshield slug/bubble snails)

- Large mantle flaps for swimming
- Can have thin, small external shell



(imgur hidden user, 2019)

(enrich madrenas, 2019)

HONOURABLE MENTIONS



(Genny Anderson, 2007)



(Changi, 2007)

Anaspidea

(Seahares)

- Large with “rabbit like” rhinophores
- Large mantle for swimming

Notaspidea (Sidegill Slugs)

- Series of feather-like gills on the side of the body
- Most are nocturnal



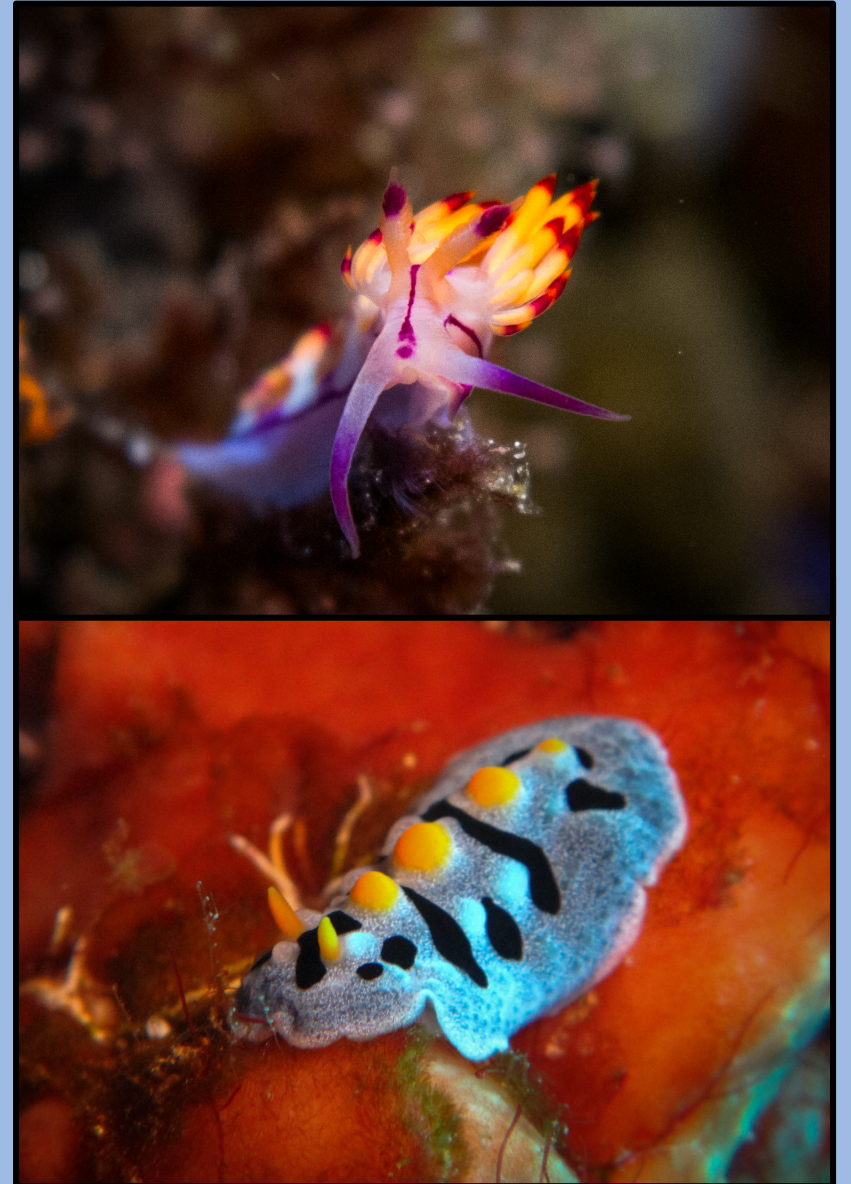
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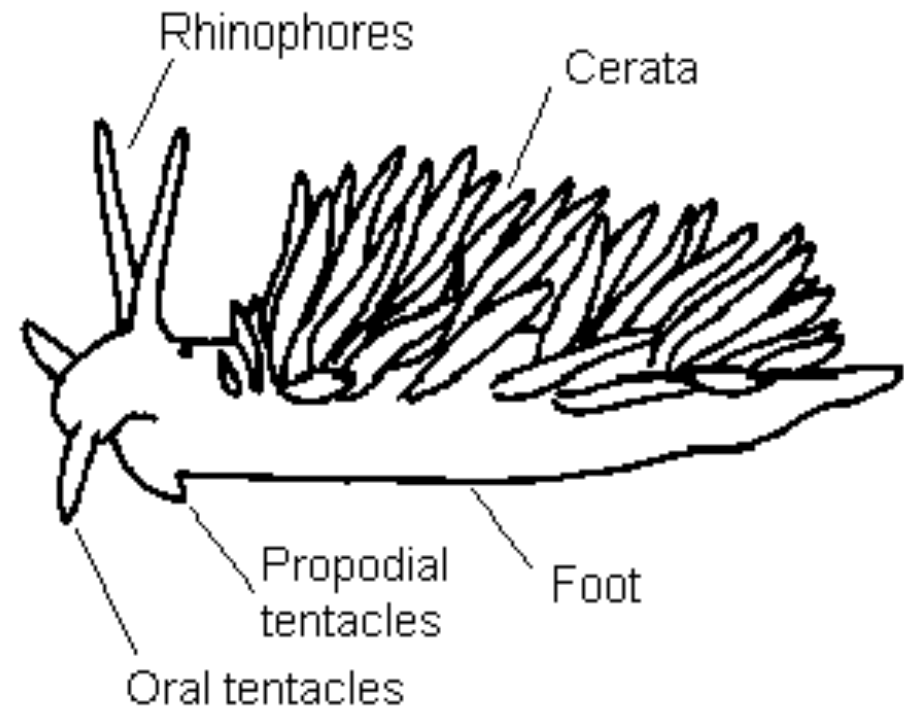
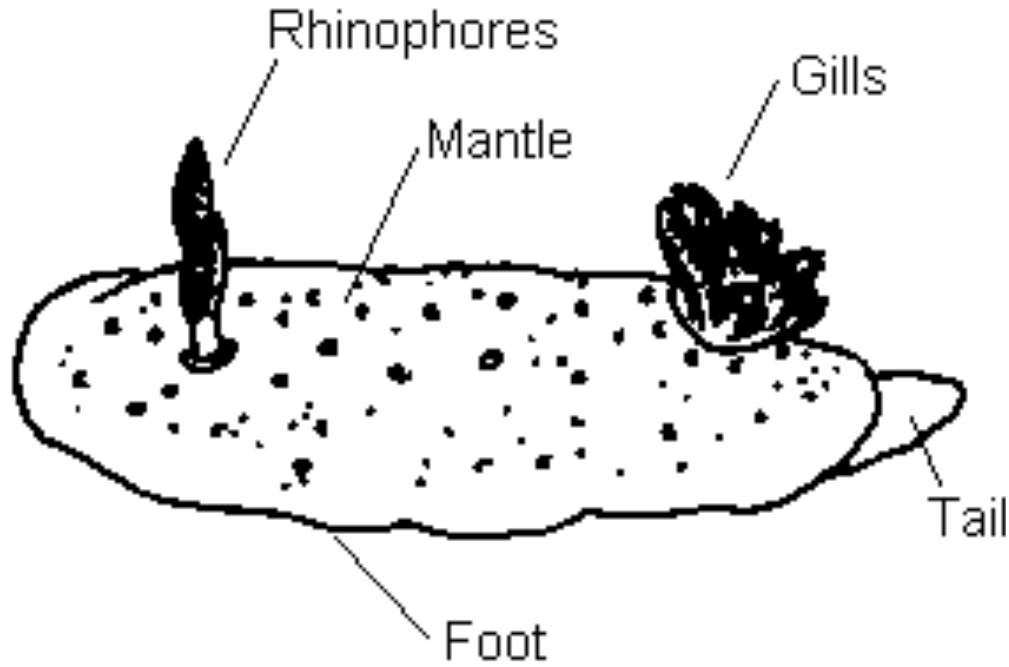
NUDIBRANCH!

- Name derived from the Greek “*nudi*” and the Latin “*branch*” words meaning “*naked gills*”
- Largest order within the subclass Opisthobranchia, ~3000 described species with many more undiscovered or undescribed.
- Can be found from the poles to the tropics in both shallow and deep water.
- On average reach up to 2cm in length



(Georgina Hayes, 2020)

DORID VS AOELID



GILLS



(Georgina Hayes, 2020)

- Sea slugs absorb O_2 using their external gills
- Come in many different shapes and sizes
- Most dorid nudibranch have feather-like plumes on their back surrounding their anus.
- Some dorids, *cryptobranchia*, can hide their gills when threatened
- Other nudibranch groups possess cerata, finger-like appendages running down the body

RHINOPHORES

- Sensory organs found on head region
- Resemble tentacles
- Dendritic cells detect chemical molecules in the water
- Ciliated cells act as mechanoreceptors detecting vibrations/changes in pressure
- Shape varies from one species to another but dorid nudibranch can retract rhinophores
- Often experience mutations resulting in extra rhinophores



FEEDING

- Individual species of nudibranch have high specialized food sources
- The group as a whole uses a large range of foods.
- Many species will live on or around their food source
 - Food sources include sponges, anemones, hydroids, barnacles, fish eggs, seaslugs and other nudibranch
 - Some nudibranch are solar powered!



REPRODUCTION

- Lifespan of nudibranch is very short
- Depending on the species they have either a few days or a few months to mate
- Hermaphroditic, have both male and female sexual organs on the right side of the body.
- Once sperm is exchanged, both individuals can produce egg ribbons.
- Different species have been seen to mate but do not produce fertile egg ribbons
- Can lay up to 25 million eggs!



(Barry Peters, 2019) (Georgina Hayes, 2020)



(Georgina Hayes, 2020)

PROTECTION

Nudibranch have developed many different methods of protection

- Tough skin and hard bodies
- Some have a spiny texture that render them unpalatable
- Sponge feeding nudibranch can store and reuse toxins
- Aeolid nudibranch can reuse nemocysts (stinging cells) from cnidarians by storing them in their cerata
- Bright colours label them as toxic to predators
- Colours can also be used as camouflage

NUDIBRANCH PHOTOGRAPHY TIPS AND TRICKS

Nudibranch are great photography subjects because they don't move much and are bright colours!

Classic nudibranch photo is head on with rhinophores in focus.

Shoot low, not from above – PRACTICE BUOYANCY SKILLS TO FINE TUNE YOUR BUOYANCY, DO NOT LAY ON THE REEF

Understand how aperture effects depth of field

DO NOT HARM OR MOVE A SEA SLUG SO THAT YOU CAN GET A BETTER PICTURE



(Georgina Hayes, 2020)

PeringatanDivers



(Georgina Hayes, 2020)

7 THINGS DIVERS MUST DO



Respect marine life & shoot photos without disturbing the environment

Support conservation & champion Green Fins

Practice buoyancy control & photography skills

Ensure all equipment is secured & do not drag over reefs

Practice advanced finning techniques

Only touch rock or dead coral if necessary

Avoid stirring up sediment by keeping your distance

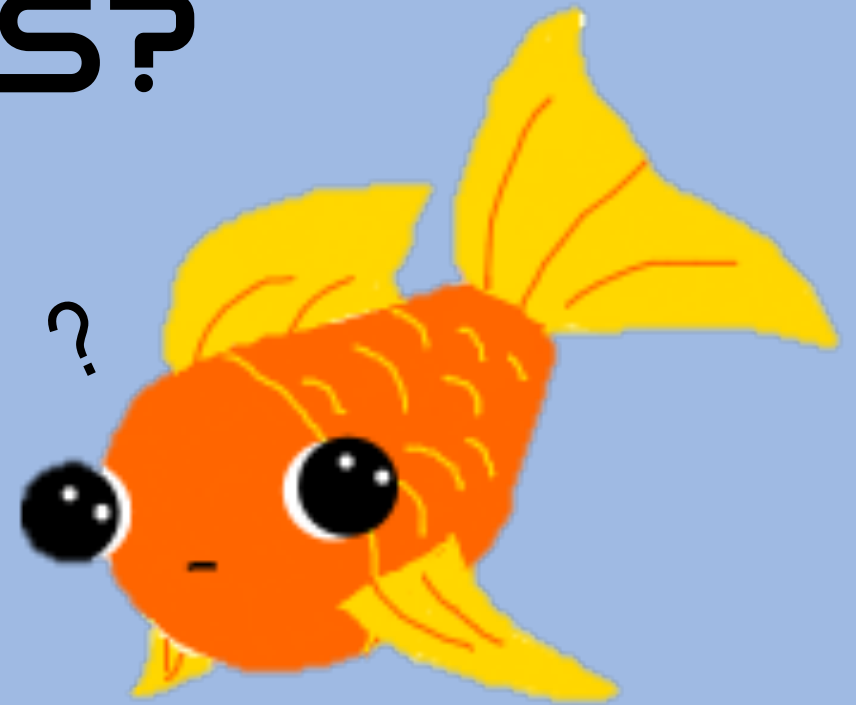
7 THINGS DIVERS MUST NOT DO X



WANT TO FIND OUT MORE?

- <https://www.nationalgeographic.com/animals/invertebrates/group/nudibranchs/>
- <http://www.nudibranch.org/>
- <http://www.seaslugforum.net/>
- **Nudibranch & Sea Slug Identification - Indo-Pacific- 2nd Edition** 2nd Edition - [Terrence Gosliner](#) (Author), [Angel Valdes](#) (Author), [David Behrens](#) (Author)
- **Nudibranch Behavior** - [David Behrens](#)

ANY QUESTIONS?



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