



INNOCEANA PROJECT

# INMOLO

INVERTEBRATES MONITORING AND LOCATION

# class plan

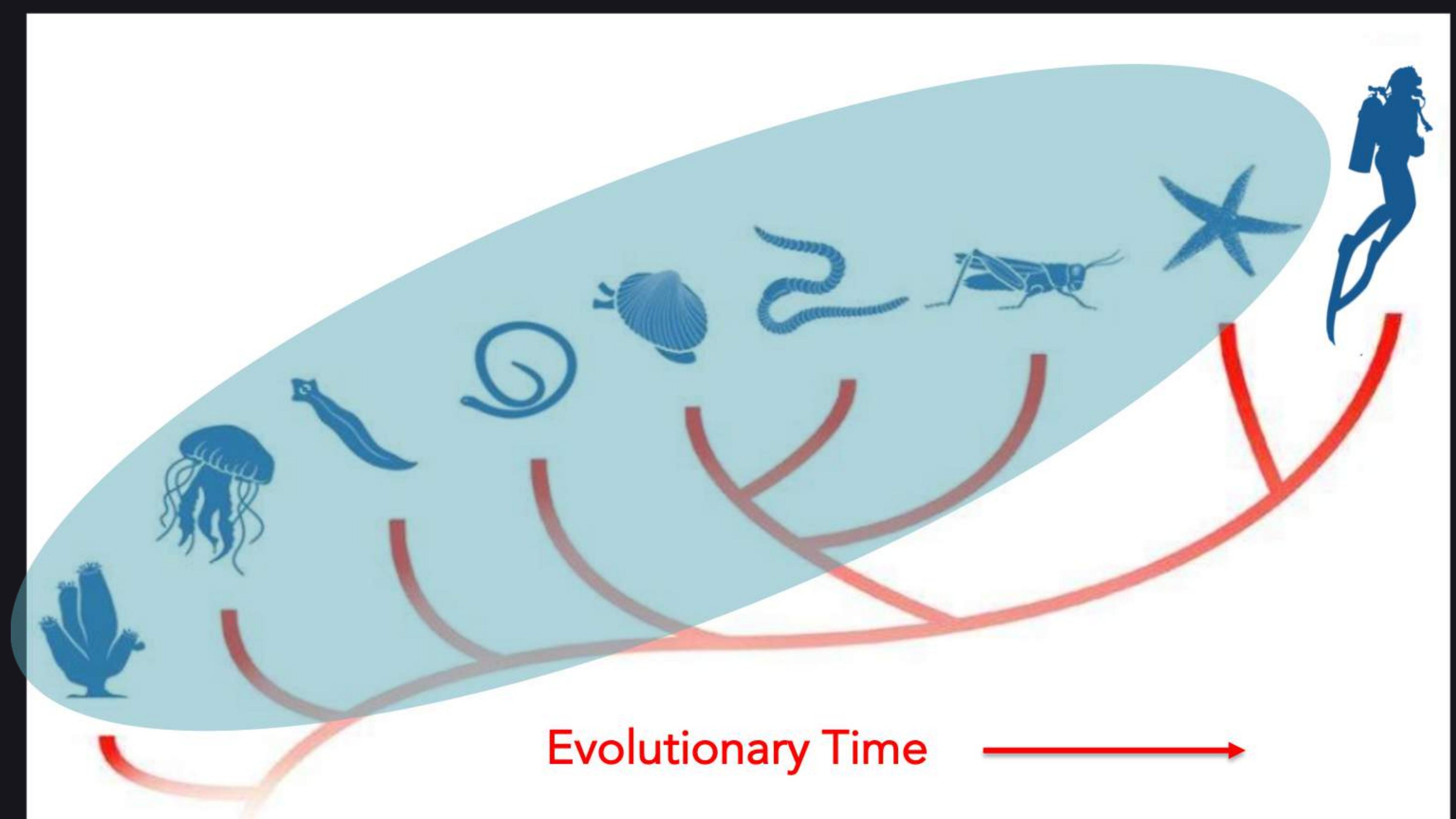
- 1 WHAT ARE INVERTEBRATES
- 2 INMOLO
- 3 APPLICATION IN COSTA RICA
- 4 PERSPECTIVES



# WHAT ARE INVERTEBRATES?



- Any animal without vertebral column
- Range from microscopic flies to giant squids (10m)
- A lot less studied than vertebrates
- Include all the animal phyla except for the Chordates



## **SPONGES**

Primitive filter feeders multicellular animals without defined tissues or digestive/circulatory/nervous system.



## **CNIDARIANS**

Corals, Zoanthids, Anemones, Jellyfishes, Hydrozoans. Radial symmetry and gastrovascular cavity.

## — **FLATWORMS**

Parasitic or symbiotic animals. Most are highly adaptable to any changes in the environment.



## — **RIBBON WORMS**

Voracious predators, capable of regeneration if a part of the body is lost. Can reach up to 50 m long.

## MOLLUSCS

Over 100.000 species (snails, bivalves, squids...). Distinguished by Mantle, Radula and Nervous System.



## SEGMENTED WORMS

Each segment has a set of organs and a pair of parapodia. Enable Oxygen to penetrate the sea floor.

## ARTHROPODS

Crustaceans and Insects. 1.200.000 species described (mostly insects). Chitin exoskeleton (derived from Glc).



## ECHINODERMS

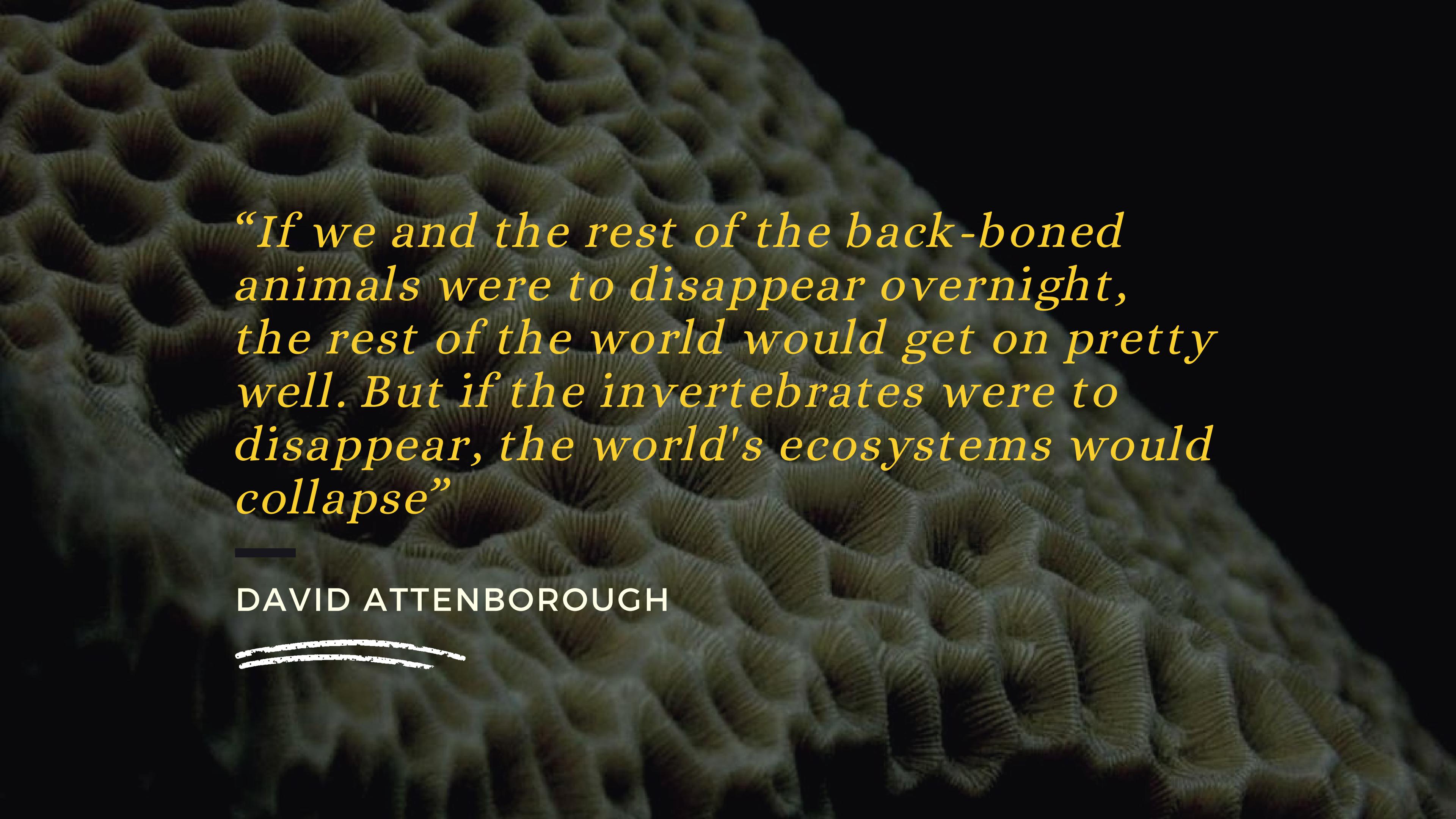
Starfishes, Sea urchins, Sea Cucumbers. Calcium carbonate endoskeleton +water vascular system.

# WHY SO IMPORTANT?

- More than 97% of all animals are invertebrates
- They are at the base of most food webs
- Very important indicators of the environment's health.
- Very important for medicinal uses



*Tambja eliora*



*“If we and the rest of the back-boned animals were to disappear overnight, the rest of the world would get on pretty well. But if the invertebrates were to disappear, the world's ecosystems would collapse”*

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DAVID ATTENBOROUGH

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# WHAT IS INMOLO?

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## A COLLABORATIVE BOOK

Describing all the species observed,  
their importance and location.

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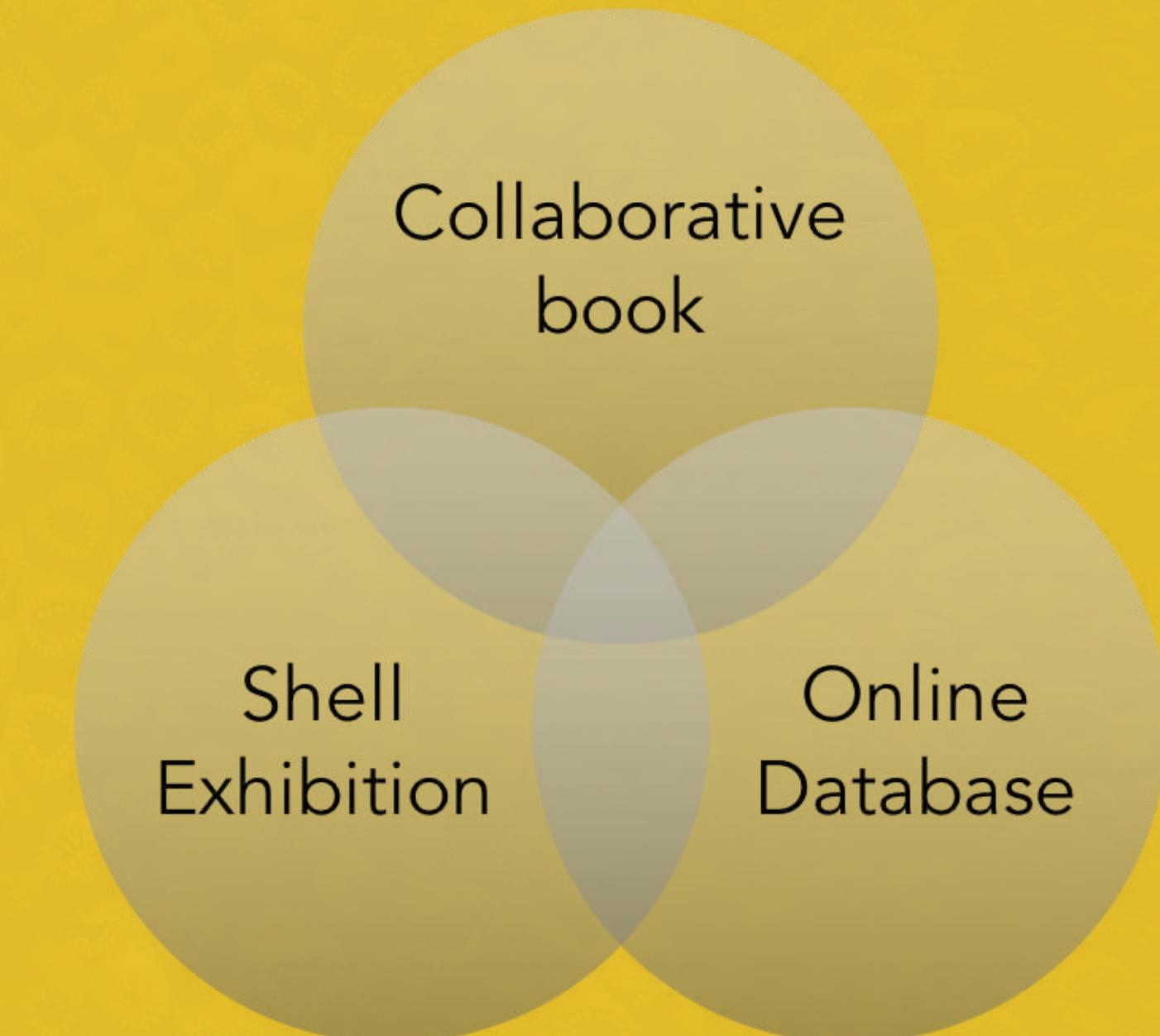
## AN ONLINE DATABASE

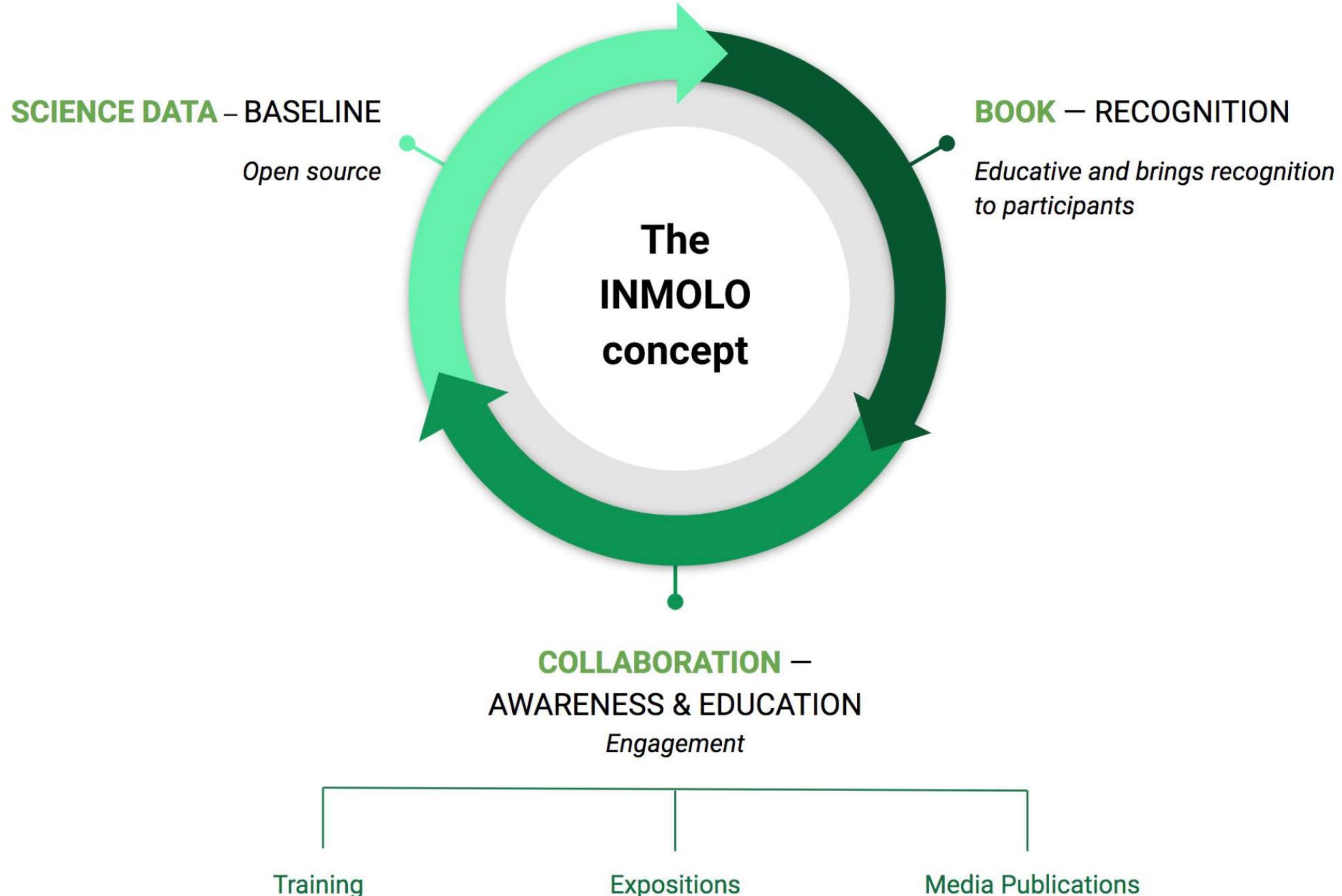
Recording every observation of  
invertebrates made, with picture,  
location and observer informations.

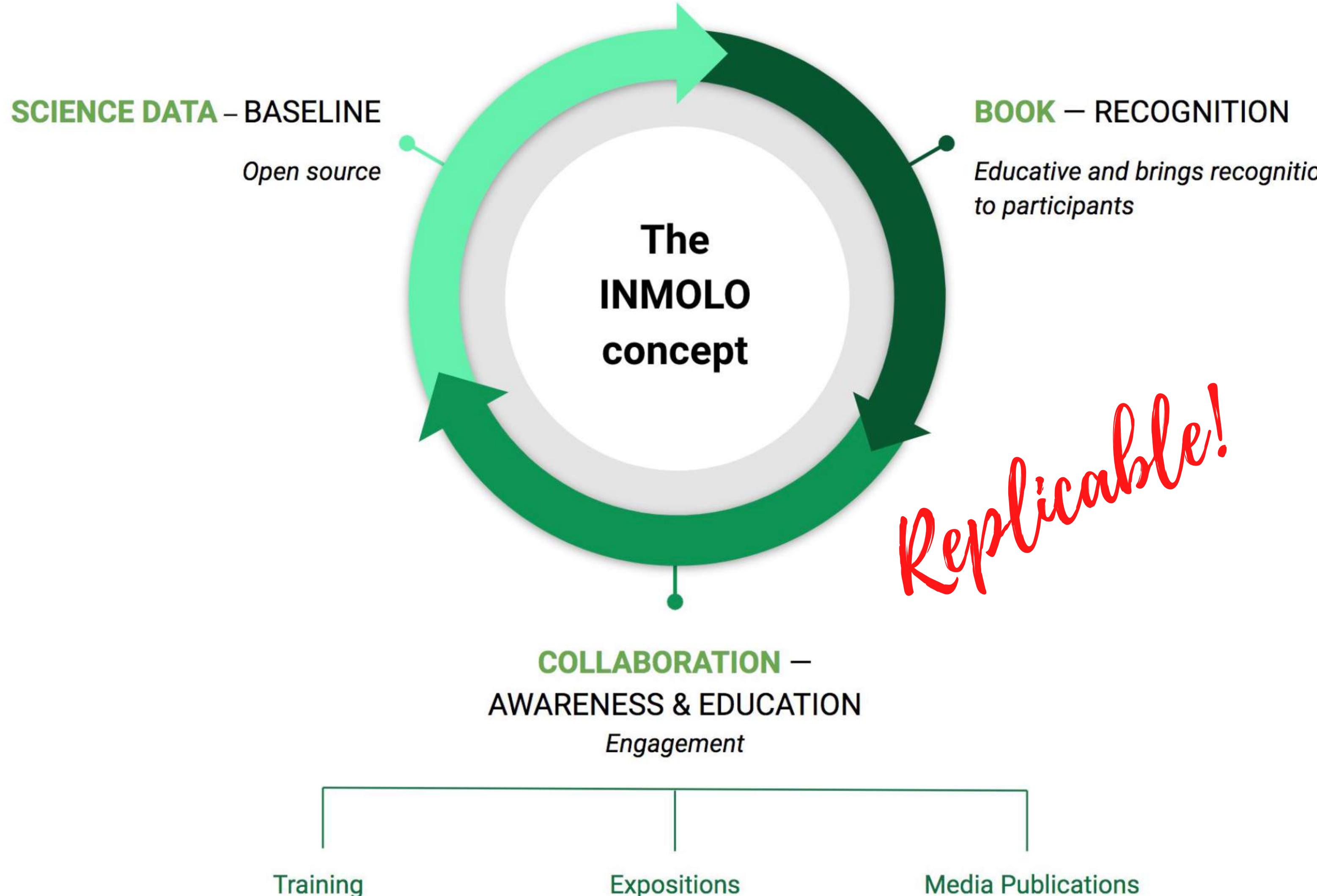
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## A SHELL EXHIBITION

Presenting the diverse collection of  
shell animals and their identification.







# WHY INMOLO?



## COLLABORATION

Building a collaborative relationship and common goal between local guides, tourists and rangers.



## BASELINE STUDY

A baseline study and essential information about invertebrate species and abundance. Without knowing what we have, we cannot know what to conserve.



## AWARENESS

Raise awareness on conservation issues and threats faced by invertebrates populations. Inform on their essential role.



## EXHIBITION

A nice demonstration of the hidden beauties of the underwater world, for tourists and locals visiting.



*Spurilla neapolitana*



*Elysia diomedea*



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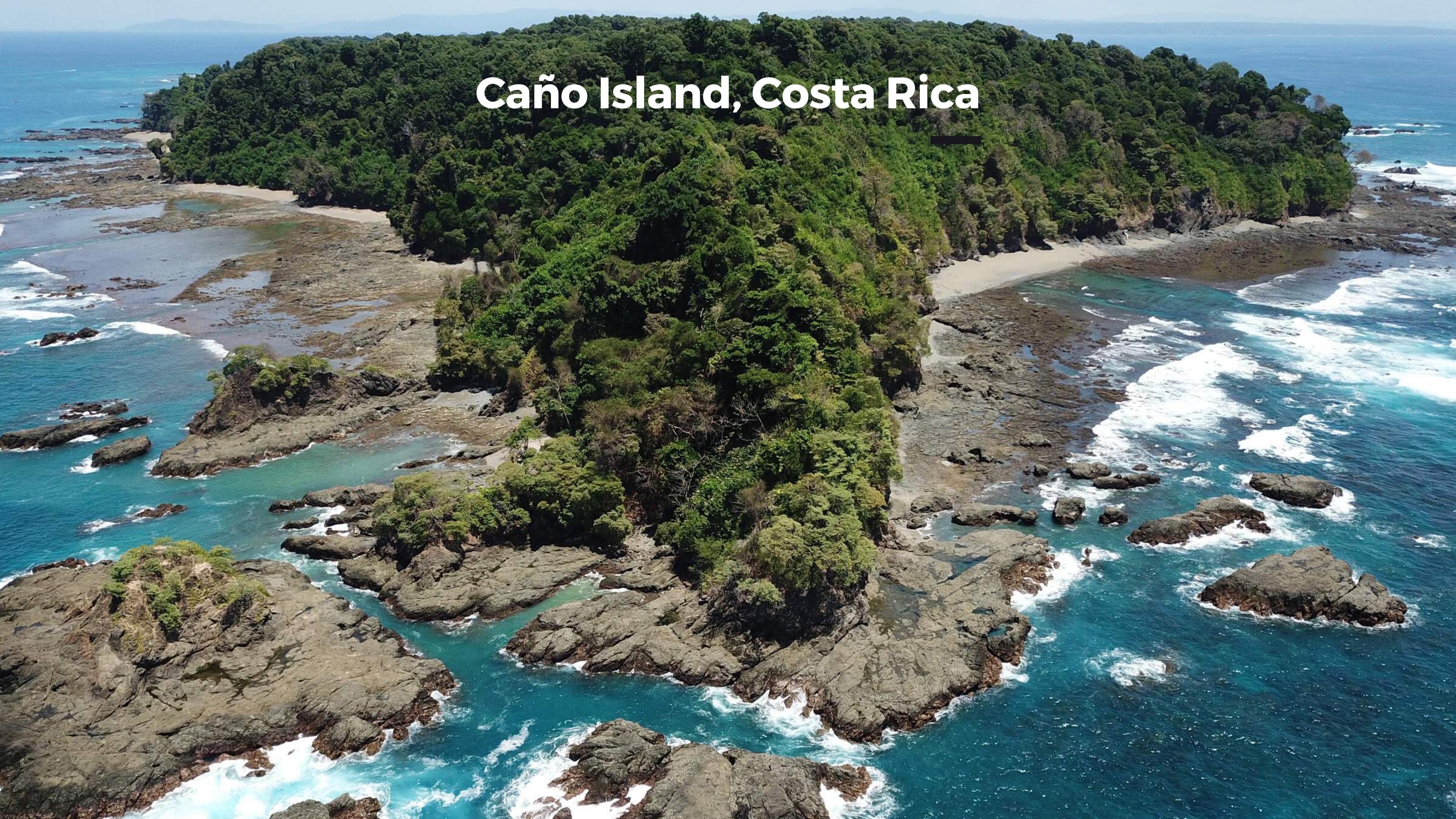
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# Caño Island, Costa Rica

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# Caño Island, Costa Rica

Biological Reserve  
Hotspot of biodiversity  
Highest variety of hard corals



- Walking
- Snorkeling
- Diving





**Collaboration**

# INMOLO on Caño Island

Invertebrates Monitoring and Localization on Caño Island.

The name and photo associated with your Google account will be recorded when you upload files and submit this form. Not [innoceana@gmail.com](mailto:innoceana@gmail.com)? [Switch account](#)

\* Required

Email address \*

Your email

What's your name ?

Your answer

When was your observation ?

Date

jj/mm/aaaa

At what time did you observe ?

Time

: AM ▾

How was the weather ?

- Good
- Bad

How did you observe ?

- Walking
- Snorkeling
- Diving

What did you observe ? (Scientific name if possible, common name or unidentified) \*

Your answer

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How many individuals did you see ?

Your answer

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What was it on ?

- Sand
- Rock
- Algae
- Coral

Do you have any comment about the observation?

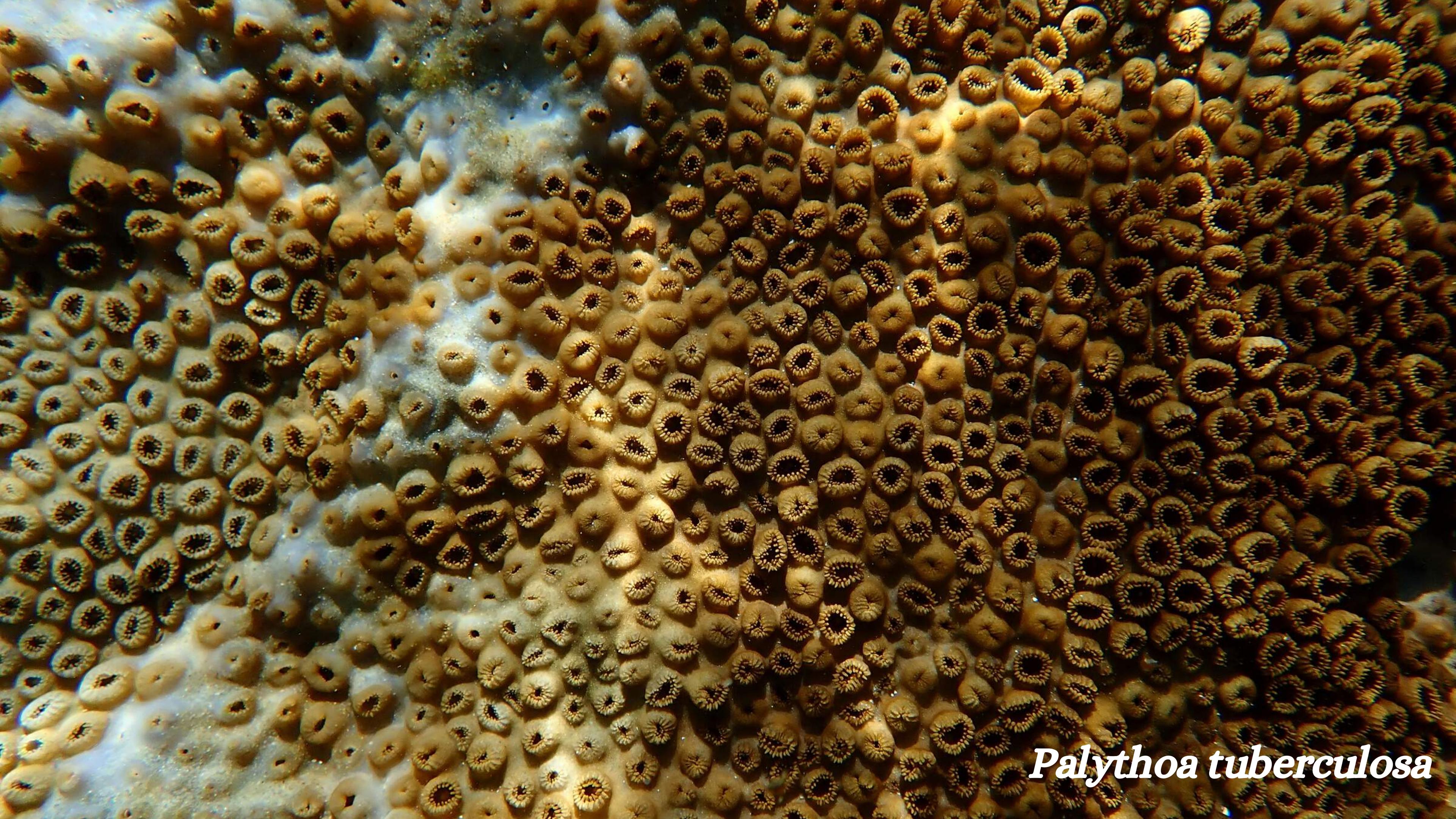


New Reports

*Cycoseris curvata*



*Felimare sechurana or californiensis*



*Palythoa tuberculosa*

*Argonauta argo*





**Endangered species**



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# PERSPECTIVES:

## INMOLO

Tenerife, California,  
Thailand, ...

## BEYOND INMOLO

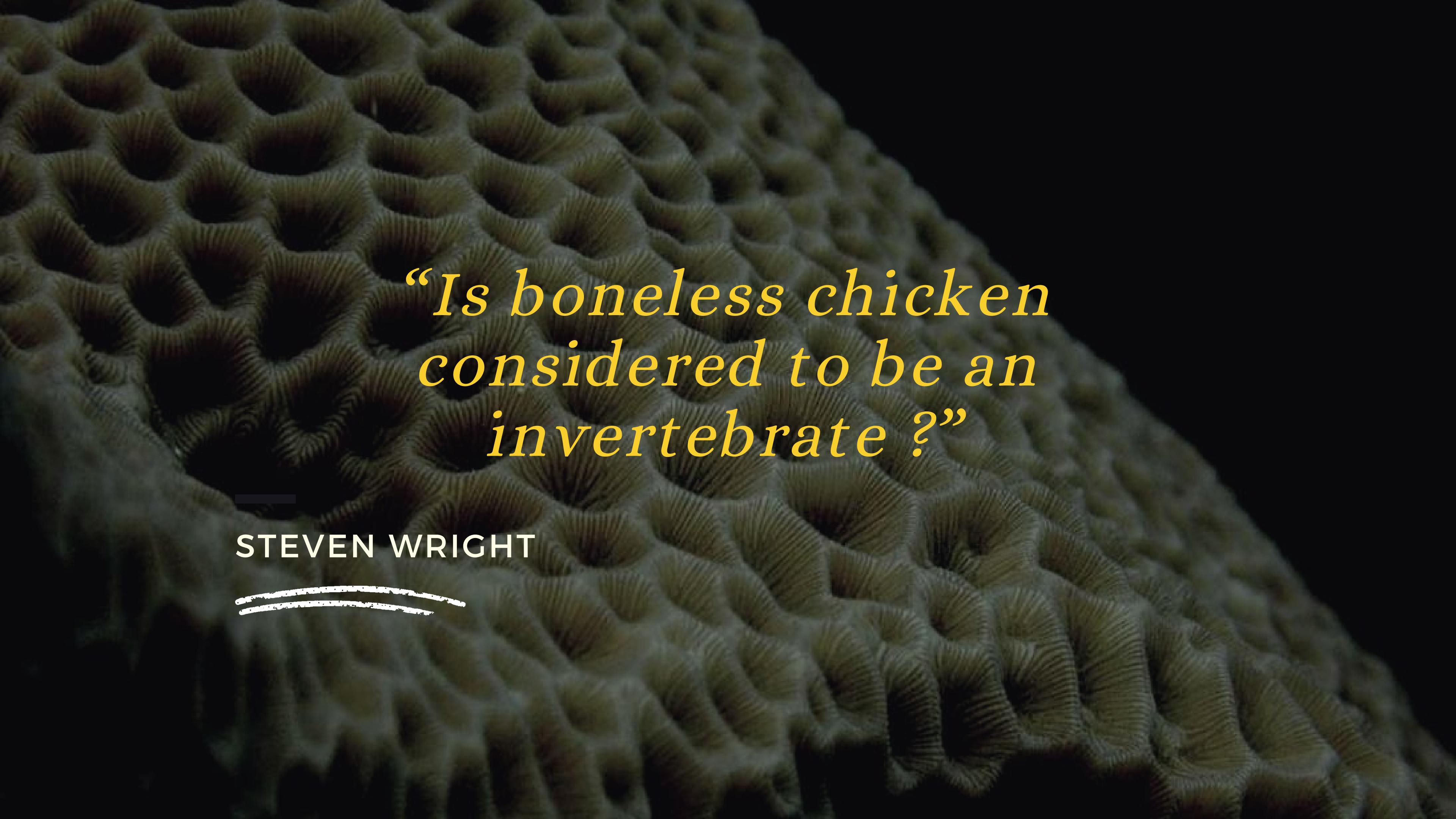
Blennies, Seahorses,  
Tunicates, ...

## PELAGIC INMOLO

Pelagic invertebrates ...





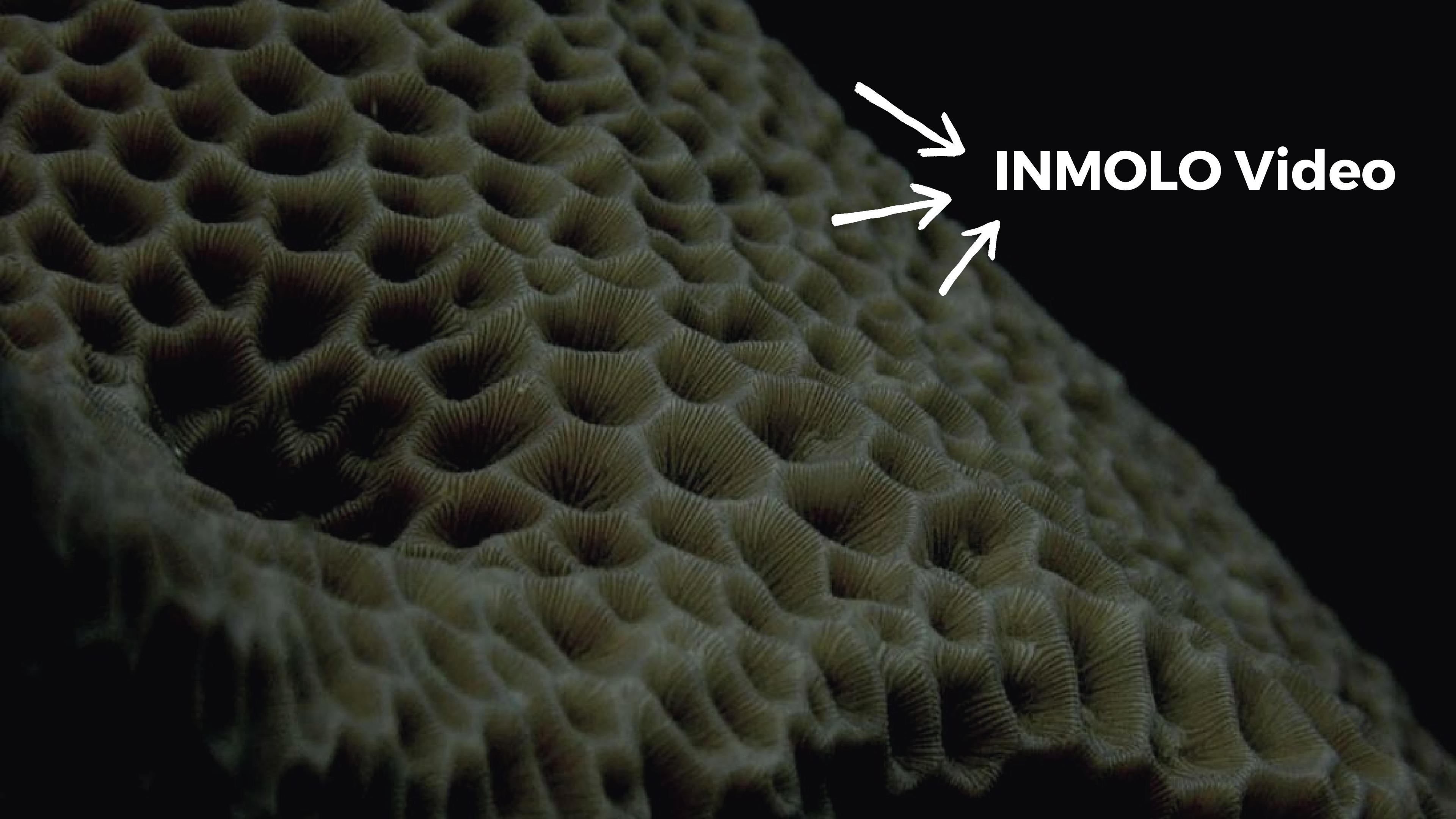


*“Is boneless chicken  
considered to be an  
invertebrate?”*

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STEVEN WRIGHT





**INMOLO Video**



**Thank you for your  
attention !**

NOW TIME FOR THE QUIZZZZZZ