

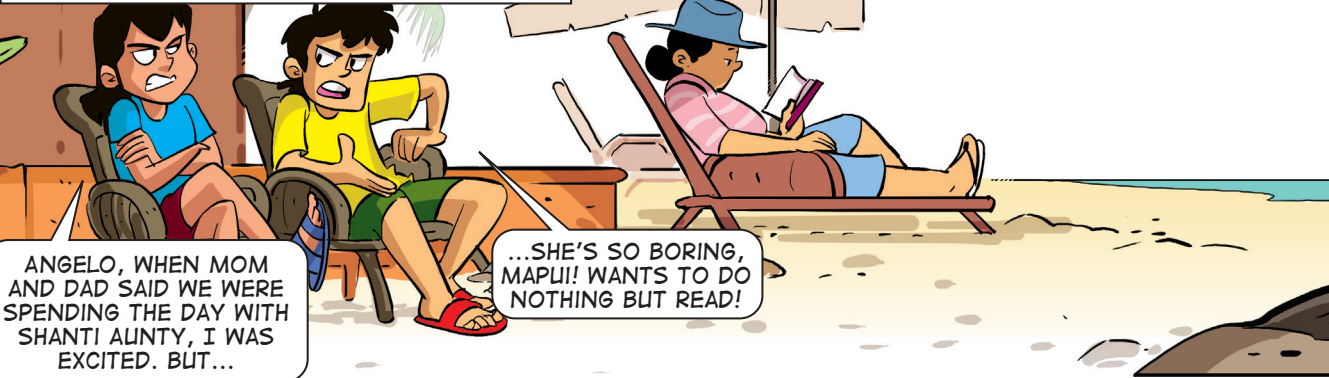
Research
Aravind Madhyastha

Story & Script
Aparna Sundaresan

Art
Sahil Upalekar

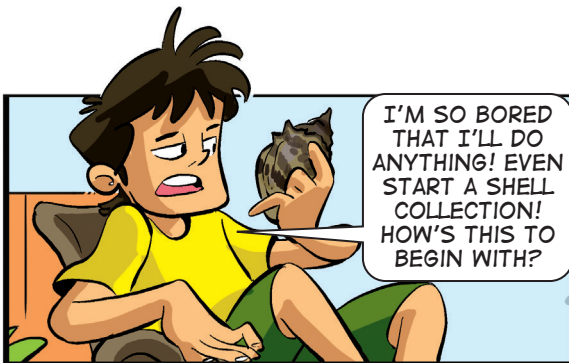
Letters
Pranay Bendre

ONE MORNING AT A BEACH IN TINKLE TOWN—

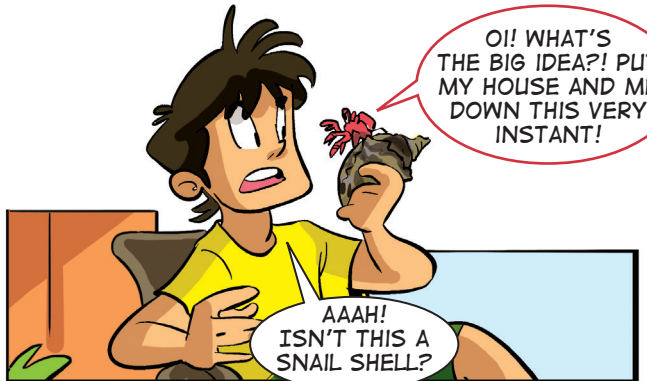


ANGELO, WHEN MOM AND DAD SAID WE WERE SPENDING THE DAY WITH SHANTI AUNTY, I WAS EXCITED. BUT...

...SHE'S SO BORING, MAPU! WANTS TO DO NOTHING BUT READ!

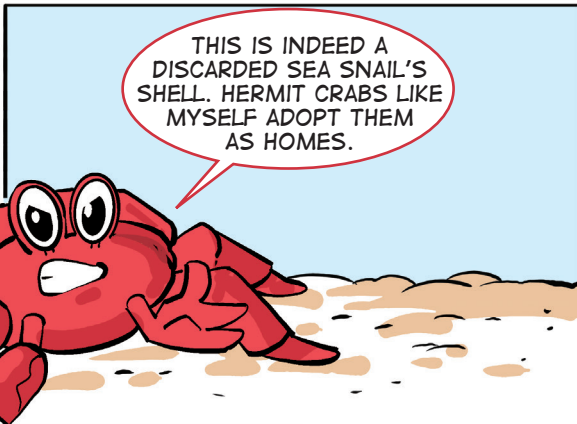


I'M SO BORED THAT I'LL DO ANYTHING! EVEN START A SHELL COLLECTION! HOW'S THIS TO BEGIN WITH?

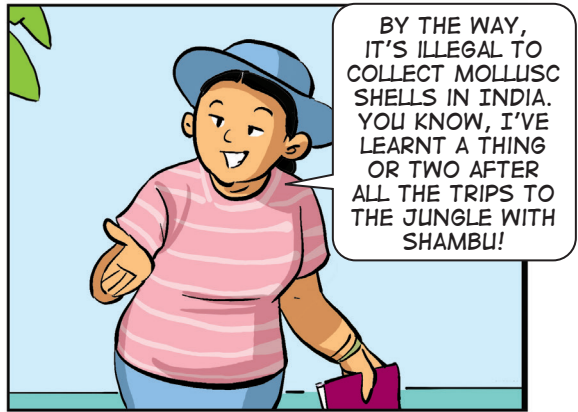


O! WHAT'S THE BIG IDEA?! PUT MY HOUSE AND ME DOWN THIS VERY INSTANT!

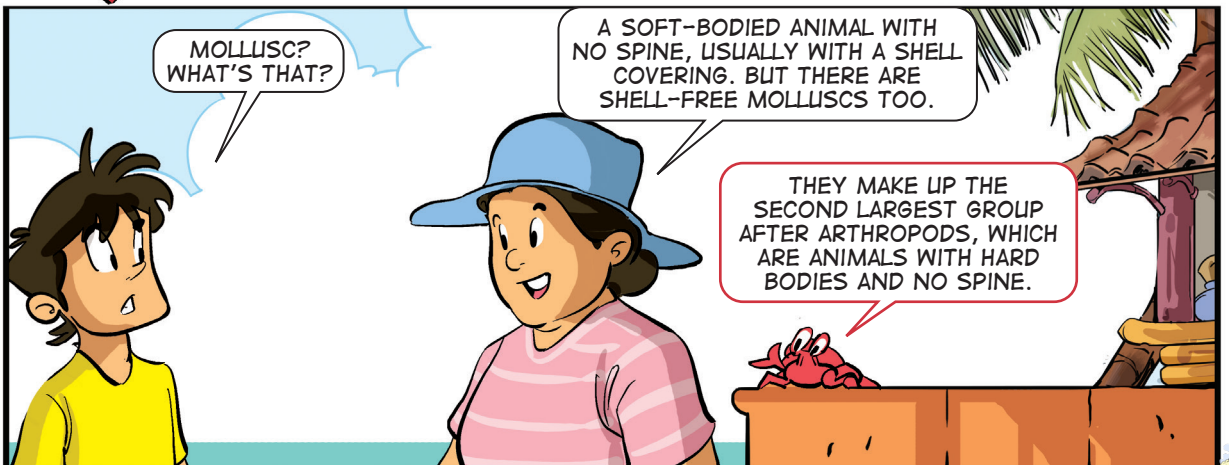
AAAH! ISN'T THIS A SNAIL SHELL?



THIS IS INDEED A DISCARDED SEA SNAIL'S SHELL. HERMIT CRABS LIKE MYSELF ADOPT THEM AS HOMES.



BY THE WAY, IT'S ILLEGAL TO COLLECT MOLLUSC SHELLS IN INDIA. YOU KNOW, I'VE LEARNT A THING OR TWO AFTER ALL THE TRIPS TO THE JUNGLE WITH SHAMBU!

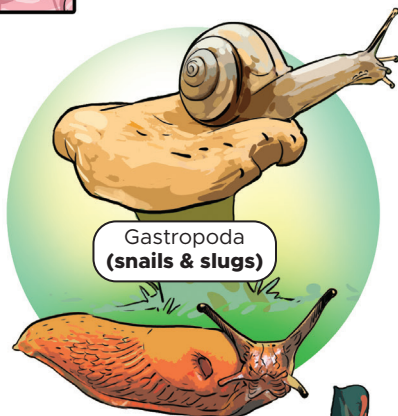


MOLLUSC? WHAT'S THAT?

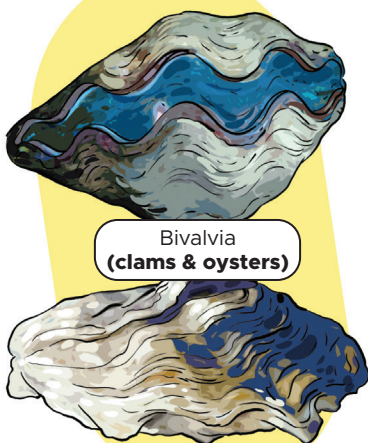
A SOFT-BODIED ANIMAL WITH NO SPINE, USUALLY WITH A SHELL COVERING. BUT THERE ARE SHELL-FREE MOLLUSCS TOO.

THEY MAKE UP THE SECOND LARGEST GROUP AFTER ARTHROPODS, WHICH ARE ANIMALS WITH HARD BODIES AND NO SPINE.

"MOLLUSCS ARE IMMENSELY DIVERSE AND ARE CLASSIFIED INTO SEVEN CATEGORIES.



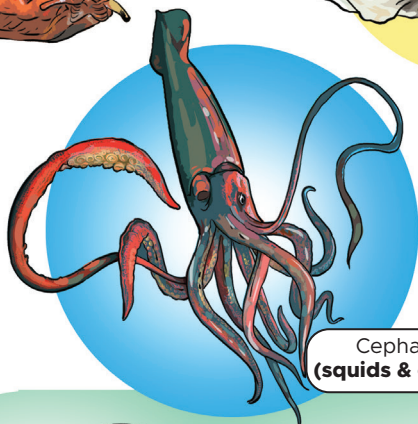
Gastropoda
(snails & slugs)



Bivalvia
(clams & oysters)



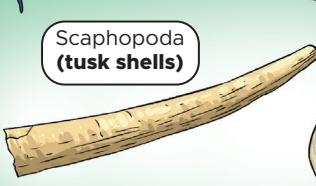
Polyplacophora
(chitons)



Cephalopoda
(squids & octopuses)



Aplacophora
(worm-like molluscs)



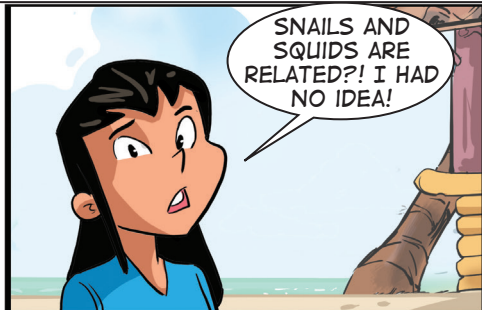
Scaphopoda
(tusk shells)



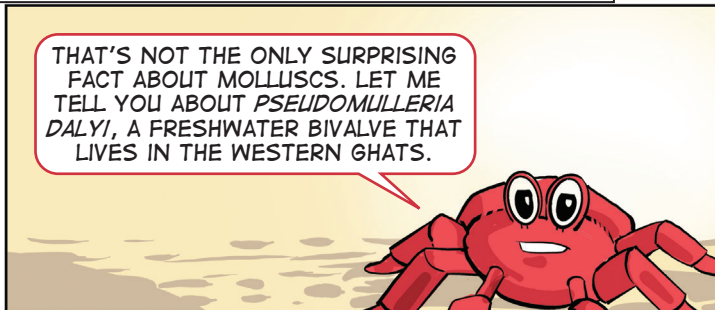
Monoplacophora
(cap-like shelled molluscs)



THE MANTLE (OUTER BODY WALL) GENERATES SECRETIONS WHICH HARDEN TO FORM THE SHELL THAT PROTECTS THEIR SOFT BODIES. SHELL-FREE MOLLUSCS ARE PROTECTED BY THEIR SLIME."

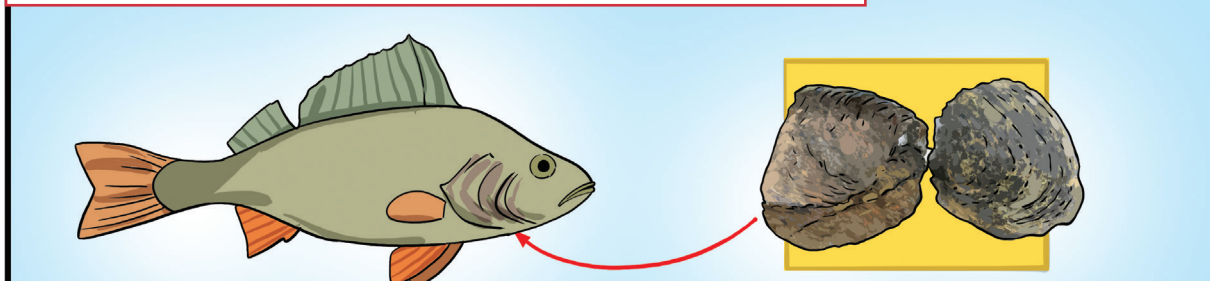


SNAILS AND SQUIDS ARE RELATED?! I HAD NO IDEA!



THAT'S NOT THE ONLY SURPRISING FACT ABOUT MOLLUSCS. LET ME TELL YOU ABOUT *PSEUDOMULLERIA DALYI*, A FRESHWATER BIVALVE THAT LIVES IN THE WESTERN GHATS.

"THIS SPECIES DATES ALL THE WAY BACK TO THE TIME OF GONDWANA*!"

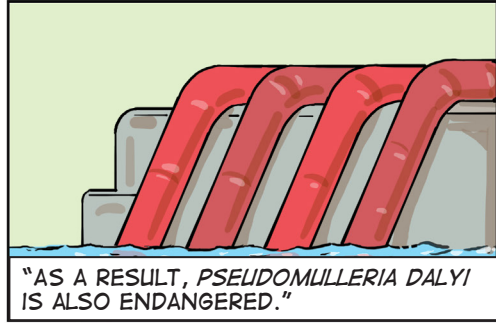
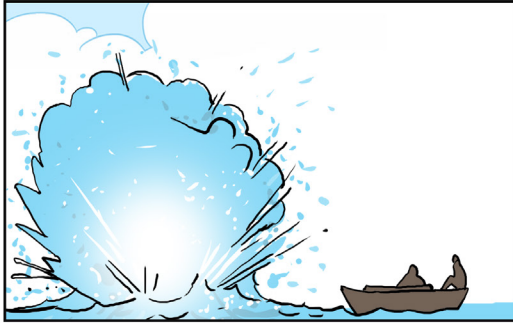
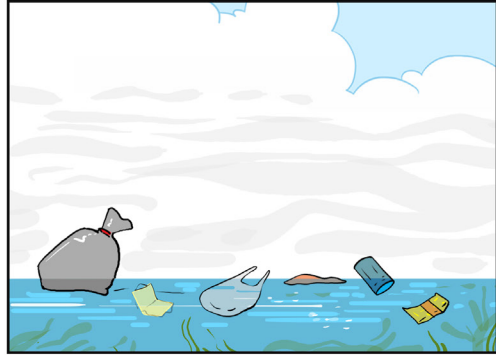
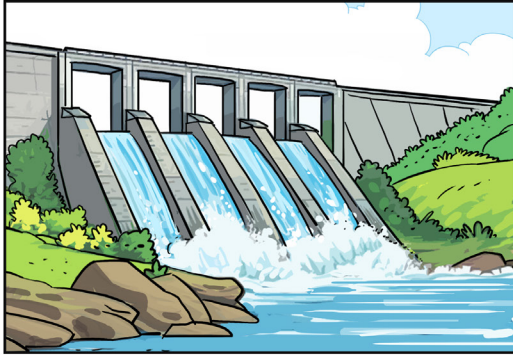


"THE LARVAE OF *PSEUDOMULLERIA DALYI* LIVE AS PARASITES IN THE GILLS OF FISH. ONCE THEY ARE OLD ENOUGH, THEY DETACH AND LIVE INDEPENDENT LIVES.

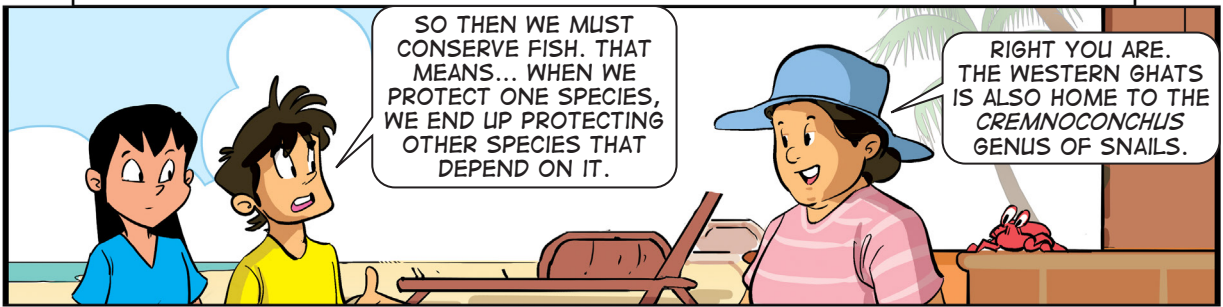


*AN ANCIENT SUPERCONTINENT THAT COMPRISED MODERN-DAY AFRICA, SOUTH AMERICA, INDIA, THE ARABIAN PENINSULA AND ANTARCTICA

"DAMS, POLLUTION, DYNAMITE FISHING (FISHING BY BOMBING) AND WATER ABSTRACTION (REMOVING WATER FROM ITS SOURCE FOR HUMAN NEEDS) THREATEN FISH.

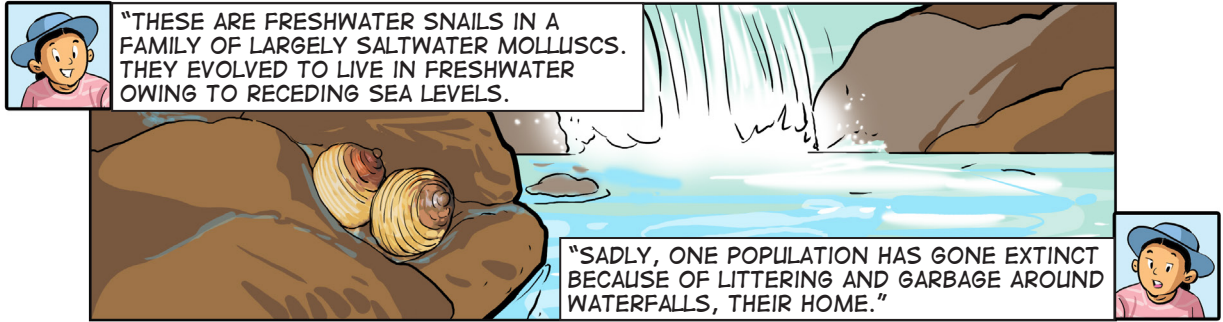


"AS A RESULT, PSEUDOMULLERIA DALYI IS ALSO ENDANGERED."



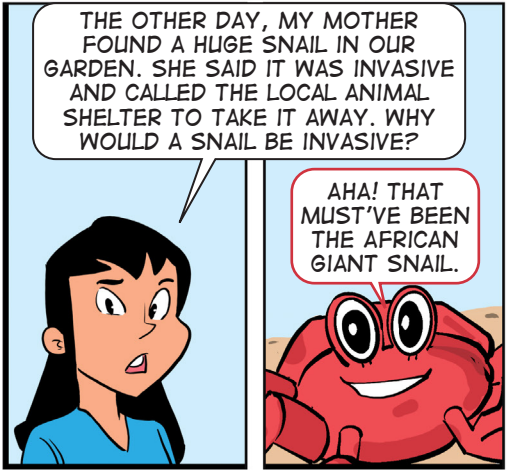
SO THEN WE MUST CONSERVE FISH. THAT MEANS... WHEN WE PROTECT ONE SPECIES, WE END UP PROTECTING OTHER SPECIES THAT DEPEND ON IT.

RIGHT YOU ARE. THE WESTERN GHATS IS ALSO HOME TO THE CREMNOCONCHUS GENUS OF SNAILS.



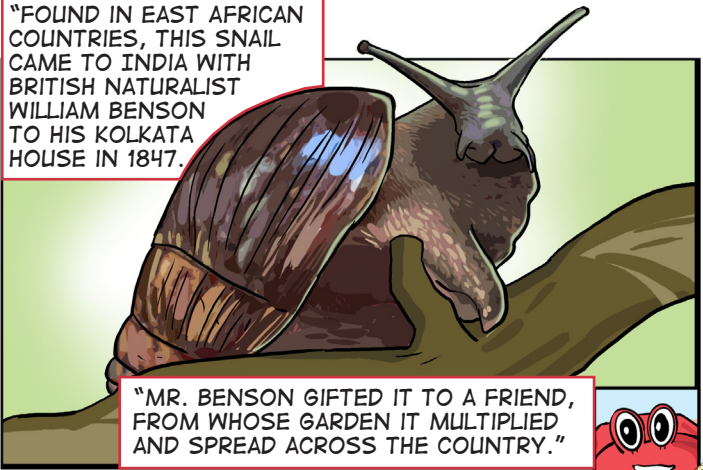
"THESE ARE FRESHWATER SNAILS IN A FAMILY OF LARGELY SALTWATER MOLLUSCS. THEY EVOLVED TO LIVE IN FRESHWATER OWING TO RECEDING SEA LEVELS.

"SADLY, ONE POPULATION HAS GONE EXTINCT BECAUSE OF LITTERING AND GARBAGE AROUND WATERFALLS, THEIR HOME."



THE OTHER DAY, MY MOTHER FOUND A HUGE SNAIL IN OUR GARDEN. SHE SAID IT WAS INVASIVE AND CALLED THE LOCAL ANIMAL SHELTER TO TAKE IT AWAY. WHY WOULD A SNAIL BE INVASIVE?

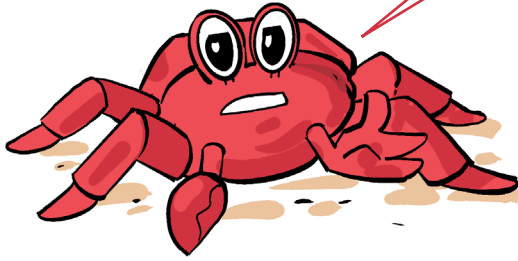
AHA! THAT MUST'VE BEEN THE AFRICAN GIANT SNAIL.



"FOUND IN EAST AFRICAN COUNTRIES, THIS SNAIL CAME TO INDIA WITH BRITISH NATURALIST WILLIAM BENSON TO HIS KOLKATA HOUSE IN 1847.

"MR. BENSON GIFTED IT TO A FRIEND, FROM WHOSE GARDEN IT MULTIPLIED AND SPREAD ACROSS THE COUNTRY."

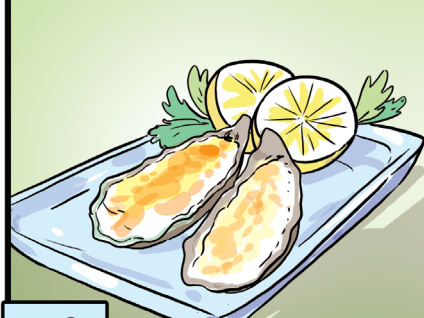
IN AFRICA, THIS SNAIL IS FOOD FOR SOME TYPES OF BIRDS. BUT HERE, THERE IS NO NATURAL PREY FOR THEM. AND UNFORTUNATELY, THIS SNAIL IS DESTRUCTIVE TO LOCAL FLORA AND FAUNA.



WE KNOW OF SEVERAL MOLLUSC SPECIES, BUT THERE ARE MANY MORE THAT WE DON'T KNOW OF, OWING TO THEIR HUGE DIVERSITY. SEVERAL SPECIES GO EXTINCT, UNKNOWN AND UNNOTICED.



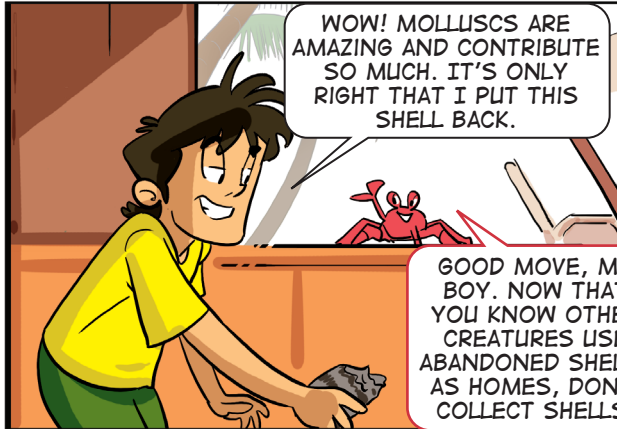
"MOREOVER, MOLLUSCS ARE GOOD SOURCES OF PROTEIN AND CALCIUM FOR ANIMALS AND HUMANS."



"SNAIL SLIME IS RICH IN ANTIBACTERIAL AND ANTIMICROBIAL PROTEIN, SO IT'S USED IN SKINCARE PRODUCTS!"

"AND OF COURSE, PEARLS, WHICH ARE USED IN JEWELLERY, ARE MADE BY MOLLUSCS."

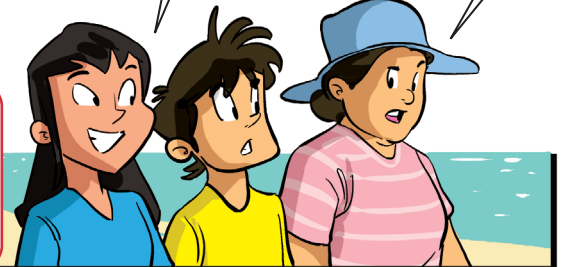
WOW! MOLLUSCS ARE AMAZING AND CONTRIBUTE SO MUCH. IT'S ONLY RIGHT THAT I PUT THIS SHELL BACK.



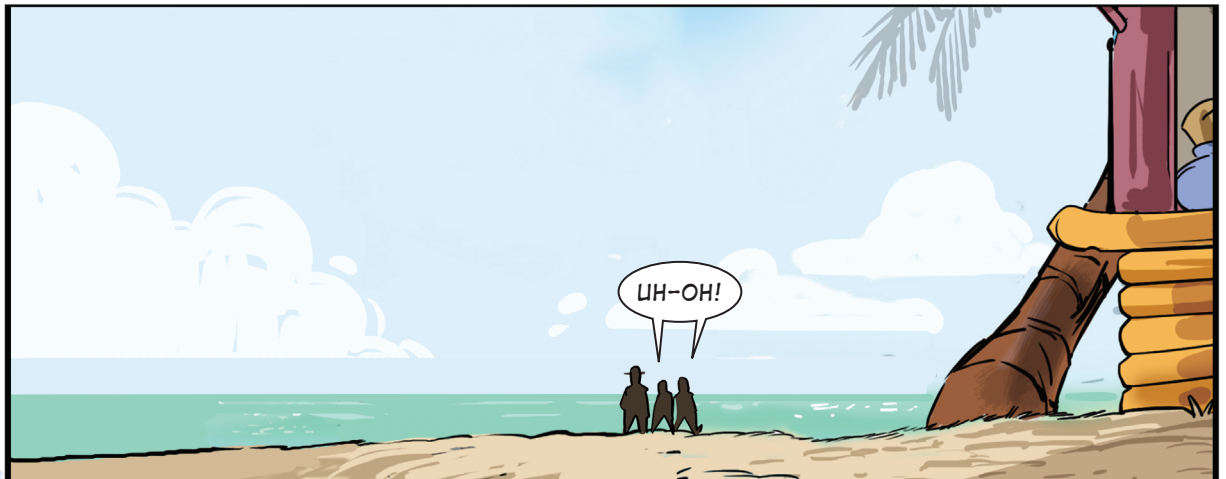
I THOUGHT THAT WE'D HAVE A SUPER BORING DAY WITH SHANTI AUNTY, BUT WE'VE HAD SUCH AN INTERESTING TIME!

WHAT DO YOU MEAN BY BORING?!

GOOD MOVE, MY BOY. NOW THAT YOU KNOW OTHER CREATURES USE ABANDONED SHELLS AS HOMES, DON'T COLLECT SHELLS!



UH-OH!



OOOPS! WHEN YOU PUT YOUR FOOT IN YOUR MOUTH, MAPLUI, NOT EVEN THE STARLITON CAN SAVE YOU!