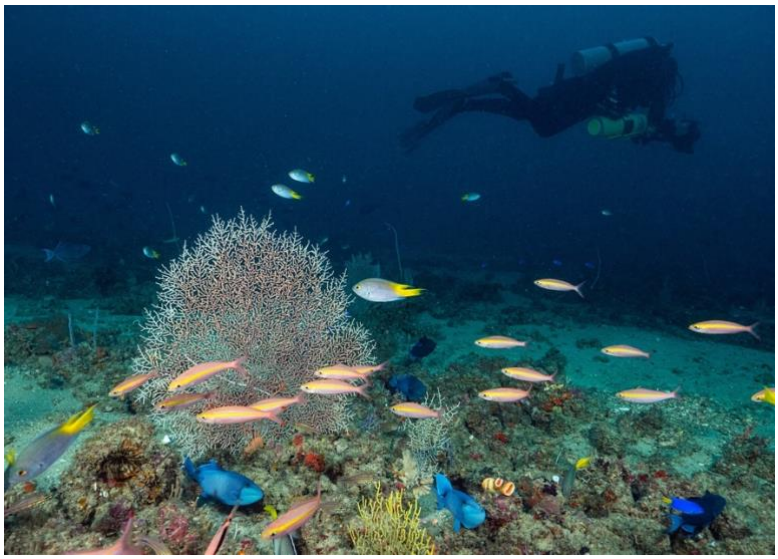
Thiruvananthapuram, June 7, 2023

Press Release

EU-AIDED RESEARCH DOCUMENTS SPECTACULAR BIODIVERSITY IN DEEPWATER ROCKY REEFS OF KERALA COAST

For the first time, the researchers documented the rich biodiversity of rocky reefs and underwater life in the Kerala coast, and few underwater sites have a rich life of the gorgonians (sea pens, sea fans) and solitary corals. These areas at a depth of 50 meters may be called “Animal Forests”, as the biodiversity is so rich, including the rare soft corals, solitary hard corals, sponges, worms, molluscs, bryozoans and ascidians, and this justifies the presence of huge schools of fish in the surroundings, says Prof Biju Kumar, who led the project. The traditional fishers in the region use these sites as their fishing sites, as they are rich in life. It is for the first time that life below water is documented from the Kerala coast, and for that matter, anywhere in India, on rocky reefs beyond 40 meters. The diving team include Umeed Mistry of Earth CoLab, Bangalore, India’s leading underwater photographer and film maker, and Jonah Skoles, Eternal Divers, Pondicherry.

Led by the project Ecomarine Team in the Department of Aquatic Biology and Fisheries, University of Kerala, the expedition aimed to explore the rich biodiversity of the Kerala coast at depths up to 100 meters, with a primary focus on rocky reefs. A ground-breaking expedition off the coast of Kerala, India, has uncovered disturbing evidence of additional plastic dumps in the ocean, posing a grave threat to the delicate life below water. The discovery was made during an extensive documentation of underwater life in the Kerala coast, shedding light on the urgent need for immediate action to address the growing problem of marine plastic pollution.



“Animal Forests” in Kerala coast in deepwater rockyreef areas, dominated with gorgonians and solitary corals

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Research Team (left to right): Umeed Mistry, Jonah Skoles, Biju Kumar

To the surprise of the research team, many of the underwater reefs beyond 40 meters explored during diving are dumped with plastics, a stark reminder of the magnitude of the global plastic pollution problem. The underwater sites were littered with various forms of plastic waste, including bottles, bags, fishing nets, and fragments of single-use plastics. This alarming find highlights the urgent need for increased efforts in waste management, recycling, and the adoption of sustainable practices to prevent further degradation of our oceans. Further, a serious thought on upstream management of the plastics, especially the rivers and sewers draining into the ocean, with truckloads of plastic waste every day.

Furthermore, the documentation of underwater life in the Kerala coast revealed the direct impact of plastic pollution on marine species. The researchers observed entangled marine creatures struggling to free themselves from discarded fishing nets, while others were seen

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ingesting plastic fragments, mistaking them for food. Such incidents highlight the devastating consequences of plastic pollution on marine biodiversity and the fragile balance of our ecosystems. Many deep-water reefs are covered with plastic nets, which may be either discards from the ocean, or the ones deserted by fishers due to entanglement. These 'ghost nets' trap many creatures every day, and remain a permanent threat to underwater life unless removed. "The discovery of additional plastic dumps in the ocean off the Kerala coast is a distressing wake-up call. It is crucial that we take immediate action to reduce plastic consumption, promote responsible waste management, and develop sustainable alternatives to plastic. Our marine ecosystems and the livelihoods of coastal communities depend on it," says Biju Kumar.

The study of life below water is only in its first phase, and the ongoing investigations of various kinds of reefs from Thiruvananthapuram to Kasaragod will unravel the richness of biodiversity and the emerging threats to the system. Further, the team will also survey the shipwreck sites on the Kerala coast, says Biju Kumar.

News in MEDIA

https://www.thehindu.com/news/national/kerala/study-finds-disturbing-evidence-of-marine-plastic-pollution-off-kerala-coast/article66941751.ece

The Hindu Daily on 7th June 2023

EU-aided study finds proof of heavy plastic pollution off Kerala coast

The Hindu Bureau
THIRUVANANTHAPURAM

Researchers have found unsettling evidence of plastic dumps in the ocean beyond 40-metre depth off the Kerala coast that are posing a grave threat to marine life forms.

An expedition to document underwater biodiversity led by the European Union-supported Project Ecomarine in the Department of Aquatic Biology and Fisheries, University of Kerala, found reefs beyond 40 metres depth dumped with plastics. Underwater sites were littered with plastic bottles, bags, fishing nets, and fragments of single-use plastics, according to the findings published on Wednesday.

Deep in trouble: A 'ghost net' found on the ocean floor.

Peril of 'ghost nets'

Marine creatures were seen struggling to free themselves from discarded fishing nets, while others were found ingesting plastic fragments, mistaking them for food. Plastic fishing nets, possibly discarded by fishers, were found on several deepwater reefs. These 'ghost nets' pose a grave problem as they trap creatures, and remain a permanent threat to underwater life.

The diving team included Umeed Mistry of Earth CoLab, Bengaluru and underwater photographer and filmmaker Jonah Skoles, Eternal Divers, Puducherry.

Role of rivers, sewers

The findings highlight the deadly consequences of plastic pollution on marine biodiversity, calling for increased efforts in waste management, recycling and the adoption of sustainable practices, A. Biju Kumar, Professor and Head, Department of Aquatic Biology, said. They also call for serious thought on upstream management of plastics, as rivers and sewers drain plastic waste into the ocean on a daily basis.

"Underwater rocky reefs have a wealth of Gorgonians (sea pens, sea fans) and solitary corals. These areas at a depth of 50 metres may be called 'animal forests' as the biodiversity is so rich, including the rare soft corals, solitary hard corals, sponges, worms, molluscs, bryozoans and ascidians. Here, huge schools of fish are also present," he said.

A wake-up call

While plastic dumps have been reported in shallow waters, this is the first instance of a study being conducted on rocky reefs beyond 40 metres off the Kerala coast.

"The discovery of additional plastic dumps in the ocean off Kerala is a distressing wake-up call. It is crucial that we take immediate action to reduce plastic consumption, promote responsible waste management, and develop sustainable alternatives to plastic. Our marine ecosystems and the livelihoods of coastal communities depend on it," says Biju Kumar.

The study is in its first phase, and ongoing investigations are expected to unravel the richness of biodiversity as well as threats to the system.

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Times of India
8th June 2023

https://timesofindia.indiatimes.com/city/thiruvananthapuram/ku-study-unveils-threats-posed-by-plastic-debris/articleshow/100863058.cms

KU study unveils threats posed by plastic debris

TIMES NEWS NETWORK

TOI

Thiruvananthapuram: Researchers who did an underwater expedition off the Kerala coast have found plastic debris threatening the rich biodiversity of rocky reefs and underwater life.

Led by the project ecomarine team of the department

(From left) Umeed Mistry, Jonah Skoles and Biju Kumar

https://www.pressreader.com/

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Mathrubhoomi Daily
June 8, 2023

കടലാഴങ്ങൾ കണ്ണഞ്ചിപ്പിക്കും കണ്ണീരണിയിക്കും

ഇന്ന് ലോക സമുദ്ര ദിനം

എസ്.എൻ.ജയപ്രകാശ്

Malayala Manorama
11 June 2023

മലയാള മനോരമ

www.manoramaonline.com/local

കടലിന്റെ അടിത്തട്ടിൽ അപൂർവ ജൈവവൈവിധ്യം കണ്ടെത്തി

സമുദ്രമലിനീകരണത്തിന്റെ തോതും കണ്ടെത്താനായി

പ്ലാസ്റ്റിക് വിഴുങ്ങുന്ന കടൽ ജീവികൾ

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Desabhimani Daily
11 June 2023

ആഴക്കടലിലെ ജന്തുവനങ്ങൾ

ഡോ. എ ബിജു കുമാർ

ആഴക്കടലിലെ ജീവൻ വിസ്മയകരമാണ്. കടലിനടിയിലെ ജീവൻ എങ്ങനെആയിരിക്കും? പ്രധാനമായും നമുക്കുള്ള വിവരങ്ങൾ മത്സ്യബന്ധന വലകളിൽ കുടുങ്ങി എത്തിപ്പെടുന്ന ജീവികളെയോ ആഴം കുറഞ്ഞ സമുദ്രഭാഗങ്ങളിൽ നാം നടത്തിയ പര്യവേക്ഷണങ്ങളെയോ ആധാരമാക്കിയോ ആണ്. എന്നാൽ അടുത്തിടെ കേരളതീരത്ത് 40 മീറ്ററിലധികം താഴ്ചയിൽ കടലിൽ നേരിട്ടുനടത്തിയ ജൈവവൈവിധ്യപഠനം വലിയതോതിലുള്ള വിവരങ്ങളാണ് ലഭ്യമാക്കിയിരിക്കുന്നത്. തുടർ പഠനങ്ങൾക്കുള്ള അടിസ്ഥാന ശിലയായി ഇത് മാറുകയുമാണ്.

വംശനാശഭീഷണി നേരിടുന്ന, വന്യജീവി സംരക്ഷണ നിയമത്തിൽ പട്ടിക 1ൽ സംരക്ഷിക്കുന്ന ഗോർഗോണിയനുകൾ (കടൽ പേനകൾ, കടൽ ഫാനുകൾ), ഒറ്റപ്പെട്ട പവിഴജീവികൾ എന്നിവയുടെ വിശാലമായ ആവാസവ്യൂഹങ്ങളാണ് തിരുവനന്തപുരം തീരപ്രദേശത്ത് കണ്ടെത്തിയിരിക്കുന്നത്. അപൂർവമായ മൃദു പവിഴജീവികൾ, സ്പോഞ്ചുകൾ, മോളസ്ക്കുകൾ, ബ്രയോസോവാനുകൾ, അസിഡിയനുകൾ എന്നിവയുൾപ്പെടെയുള്ള ജൈവവൈവിധ്യസമ്പന്നമായ ഈ പ്രദേശങ്ങളെ 'ജന്തു വനങ്ങൾ' എന്ന് വിളിക്കാം. ജൈവസമ്പന്നമായ ഇത്തരം പ്രദേശങ്ങളെ പരമ്പരാഗത മത്സ്യത്തൊഴിലാളികൾ അവരുടെ മത്സ്യബന്ധനപ്രദേശങ്ങളായി ഉപയോഗിച്ചുവരുന്നു. 40 മീറ്ററിലധികം താഴ്ചയുള്ള പാറപ്പാർ(rocky reefs) പ്രദേശങ്ങളിൽ ജീവിതം നേരിട്ട് രേഖപ്പെടുത്തുന്നത് ആദ്യമാണ്. 80 മീറ്റർ വരെ സ്കൂബാ ഡൈവിലൂടെയും അതിനപ്പുറത്ത് വിദൂരമായി പ്രവർത്തിപ്പിക്കുന്ന വാഹനങ്ങൾ ഉപയോഗിച്ചും കേരള തീരത്ത് വെള്ളത്തിനടിയിലെ ജീവന്റെ സാന്നിധ്യം രേഖപ്പെടുത്തുന്ന വിപുലമായ പദ്ധതിയാണിത്. കേരള സർവകലാശാല അക്വാട്ടിക് ബയോളജി ആൻഡ് ഫിഷറീസ് വകുപ്പ് പ്രോജക്ട് ഇക്കോമറൈൻ ടീമിന്റെ നേതൃത്വത്തിലാണ് പര്യവേക്ഷണം. ആഴസമുദ്രത്തിൽ നടന്ന പര്യവേക്ഷണം പ്ലാസ്റ്റിക് മലിനീകരണത്തിന്റെ ഭീഷണിയും വെളിവാക്കി. പല ആഴത്തിലുമുള്ള പവിഴപ്പുറ്റുകളും ഉപേക്ഷിക്കപ്പെട്ട പ്ലാസ്റ്റിക് വലകളാൽ മൂടപ്പെട്ടിരിക്കുന്നു. ഈ 'പ്രേത വലകൾ' എല്ലാദിവസവും നിരവധി ജീവികളെ കുരുക്കുകയോ നശിപ്പിക്കുകയോ ചെയ്യും.

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