Experts urge COP15 policy makers to support research to find, catalogue, protect disappearing deep-sea species

December 9 2022

POLICYBRIEF 12/2022

DER SENCKENBERG GESELLSCHAFT
FÜR NATURFORSCHUNG

Diving through the darkness

Species information is vital for effective marine conservation

Diversity brought to light during a single deep-sea sampling campaign - the recent AleutBio expedition to the Aleutian trench on board RV Sonne (species not shown to scale).

by Stefanie Kaiser[1] // Julia Sigwart[1] // Aidin Niamir[1] // Hanieh Saeedi[1] // Chong Chen[2] // Ana Hilário[3] // Tammy Horton[4] // Kerry Howell[5] // Lisa Levin[6] // Karen Osborn[7] // Angelika Brandt[1,8]

Preamble

World leaders and representatives of 196 contracting states are joining the 15th Conference of the Parties (COP15) to the Convention on Biological Diversity (CBD) in Montréal to discuss strategies to stem global biodiversity loss. Worldwide, one million species are currently threatened with extinction from increasing anthropogenic impacts. Recently discovered species have been predicted to have unusually high risks of extinction; many of these occur in biodiversity-rich marine environments such as coral reefs and the deep sea. Conservation of deep-sea species found in "areas beyond national jurisdiction" is particularly challenging because we know very little about them, and there is not yet an international framework to guide the implementation of conservation measures. Deep-sea ecosystems form the largest realm on Earth that harbour a vast number of species, but remain least explored. The deep sea and its unique and rich biodiversity play a key role in ecosystem services, such as food supply or regulating global climate by absorbing heat and sequestrating carbon dioxide from the atmosphere. However, scientists estimate that about 90% of species in the oceans are not yet discovered or have no name.

We urge decision makers to further support species discovery, including deep-sea exploration activities. Protection of undescribed biodiversity must go in concert with increasing species information to ensure effective marine conservation.

In a new policy brief presented at COP15, world leading experts warn that over 90% of marine species are undescribed and many may go extinct due to human activity before they're discovered—the loss of unique, potentially valuable genetic resources resulting in unpredictable effects on global ecosystems essential to human food supplies and climate regulation. Credit: Senckenberg Research Institute and Natural History Museum

More than 90% of marine species are undescribed and many may go extinct due to human activity before they're discovered—the loss of unique, potentially valuable genetic resources resulting in unpredictable effects on global ecosystems essential to human food supplies and climate regulation.

Without knowledge of these species, effective deep sea conservation is impossible, leading international marine scientists warned in a new policy brief presented at the UN Biodiversity Conference (COP15) today in Montreal.

They urge global policy-makers to support urgently needed new research to fill a critical knowledge gap.

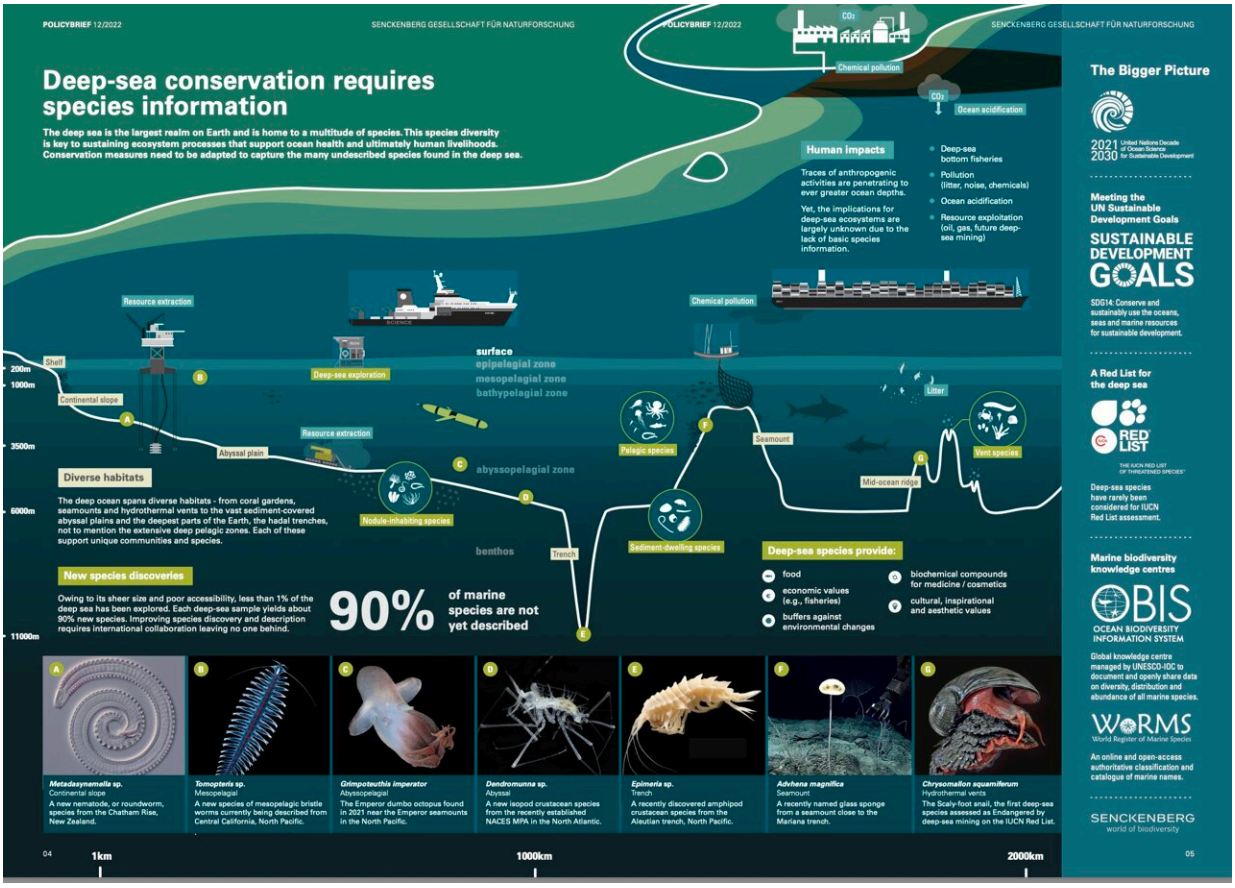
While roughly 28,000 deep-sea animal species have been described and named, an estimated 2.2 million other marine species, including deep-sea, are unknown to science, of which many are thought to be threatened with extinction.

In 2019, the Scaly-foot Snail (Chrysomallon squamiferum) became the first deep-sea species listed as globally endangered due to the threat of deep-seabed mining.

"Conservation of deep-sea species found in 'areas beyond national jurisdiction' is particularly challenging," the policy brief says.

"We know very little about them, and there is not yet an international framework to guide the implementation of conservation measures," says lead author of the brief, Dr. Stefanie Kaiser of the Senckenberg Research Institute and Natural History Museum, Frankfurt.

Knowledge of deep-sea species biodiversity is an obvious first step to effective protection of both the species and the ecosystem processes associated with them.



Without knowledge of deep sea species, effective conservation is impossible,

leading international marine scientists warn in a new policy brief presented at the UN Biodiversity Conference (COP15) in Montreal. Credit: Senckenberg Research Institute and Natural History Museum

The scientists warn that deep sea species are increasingly exposed to pollution and habitat destruction.

In particular, global warming, ocean acidification and resource depletion could lead to dramatic changes in deep-sea biodiversity with unpredictable consequences for humans as well.

The scientists call for support to develop international research strategies, infrastructure, cooperation and exploration.

"Deep-sea areas seem very distant and insignificant at first glance; it's not immediately clear what this vast ecosystem and its inhabitants are doing for us," explains Dr. Kaiser.

"The deep sea—defined as 200 to 11,000 meters depth and beyond—is the world's largest habitat, covering more than half of earth's surface. It is essential to global climate regulation by storing carbon dioxide and heat and by maintaining biodiversity."

More information: Policy brief: drive.google.com/file/d/17mbwb … Y0vqNmdanmooM1r/view

Provided by Senckenberg Society for Nature Research

Citation: Experts urge COP15 policy makers to support research to find, catalogue, protect

disappearing deep-sea species (2022, December 9) retrieved 26 June 2024 from https://phys.org/news/2022-12-experts-urge-cop15-policy-makers.html