

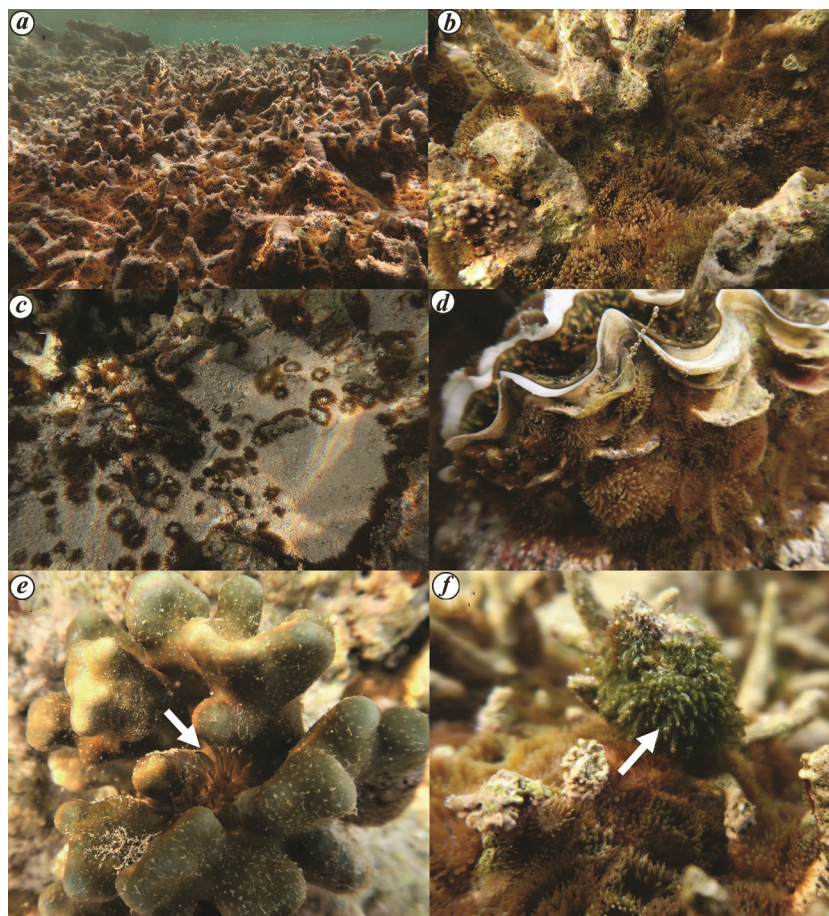
## Corallimorph sea anemone infestation in the coral reefs of Lakshadweep archipelago, India

Coral reefs have undergone a phase shift in several instances due to the dominance of soft corals, sea anemones or sponges<sup>1,2</sup>. Such phase shifts could be triggered either by natural calamities or due to the anthropogenic disturbances that resulted in the reduction in coral cover and coral health<sup>3</sup>. One such instance has been documented recently (February 2021), during an intertidal survey along the reef edges (lagoon side) of Agatti Island, Lakshadweep, India. The dead corals, shells of giant clams and some live corals were infested by corallimorph sea anemone (Figure 1). These are invasive and naturally thrive in man-made or environmentally disturbed coral reef habitats<sup>4</sup>. They are considered as secondary colonizers that cover as a carpet the empty spaces of coral reefs. They are also resistant to pollutants and could be a po-

tential indicator for pollution studies<sup>5</sup>. The present corallimorph sea anemone species was identified as *Condylactis* sp. due to its typical brown colour, short tentacles with pink-coloured tips and oral disk diameter of 0.5–4 cm with mouth turned upside down, which are characteristic features of corallimorph sea anemones. Like other sea anemones, the corallimorph sea anemones also possess zooxanthellae inside their bodies to perform photosynthesis and provide nutrients to the host<sup>5</sup>. The present infestation of corallimorph sea anemones in Lakshadweep is only observational and subsequent damage to the coral reefs needs to be examined.

To the best of our knowledge, there are no reports on corallimorph sea anemone infestation in the Indian Ocean region. Previous reports on such infestations have

been observed only in Kenting National Park, southern Taiwan<sup>6</sup> and Pacific Palmyra Atoll<sup>7</sup>. The outbreak of corallimorph sea anemones in Lakshadweep can be linked to the tropical cyclone ‘Tauktae’ that occurred in May 2021, affecting the entire west coast of India as well as Lakshadweep, Sri Lanka and the Maldives. Since the Lakshadweep reefs are more susceptible to increasing sea-surface temperature, coral bleaching events have been more prevalent in recent decades<sup>7</sup>. Further, the presence of several boats anchored in the nearby areas could be a reason for the increase in the leaching of iron from the propellers or anchors. The high density of corallimorph sea anemones found in the northwestern lagoon side of the Agatti Island indicates that they are rare or absent in the nearby coral areas of the lagoon as well as



**Figure 1.** *a–c*, Corallimorph sea anemone (*Condylactis* sp.) infestation in the degraded coral reef areas in the northwestern lagoon side of Agatti Island, Lakshadweep, India. *d*, Sea anemone infesting the outer shells of live giant clam *Tridacna* sp. *e*, Corallimorph anemone (white arrow) thriving on the surface of live blue coral. *f*, Prevalence of green seaweed *Chaetomorpha* sp. (white arrow) adjacent to corallimorph sea anemone.

in outer reef slopes. *Condylactis* sp. infestation would lower the coral larval recruitment and eventually delay the recovery of associated communities<sup>6</sup>. In order to determine the risk of anemone infestation on the coral communities, conducting benthic surveys in the affected areas of Agatti Island is a prerequisite. Furthermore, a rapid survey needs to be undertaken in the other islands of Lakshadweep to better evaluate anemone infestation in the coral reef areas. Lastly, long-term ecological monitoring is warranted to ensure the recovery of coral and associated communities in the Lakshadweep archipelago.

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S. PRAKASH<sup>1,2,\*</sup>  
T. T. AJITH KUMAR<sup>3</sup>  
KULDEEP K. LAL<sup>3</sup>

<sup>1</sup>Centre for Climate Change Studies,  
Sathyabama Institute of Science and  
Technology,  
Rajiv Gandhi Salai,  
Chennai 600 117, India

<sup>2</sup>Sathyabama Marine Research Station,  
Sallimalai Street,  
Rameswaram 623 526, India

<sup>3</sup>ICAR-National Bureau of Fish Genetic  
Resources,

Canal Ring Road, P.O. Dilkusha,  
Lucknow 226 002, India

\*e-mail: prakash.ccs@sathyabama.ac.in

## NEWS

### Prof. A. K. Sood appointed Principal Scientific Advisor to the Government of India

Renowned physicist and Padma Shri awardee Ajay Kumar Sood has been appointed as the Principal Scientific Advisor (PSA) to the Government of India. He is currently a Distinguished Honorary Professor of Physics and Year of Science Professor at the Indian Institute of Science (IISc), Bengaluru, and is noted for his work on graphene and nanotechnology. He will take over as PSA from K. VijayRaghavan, the former director of the National Centre for Biological Sciences, who has been in the position since March 2018.

Since 2018, Sood has also been a member of the Prime Minister's Science, Technology, and Innovation Advisory Council (PM-STIAC). In November 1999, the government established the Office of the Principal Scientific Advisor. The office seeks to provide pragmatic and objective advice to the Prime Minister and his cabinet on matters related to science, technology, and innovation, with a focus on the application of science and technology in critical infrastructure, economic, and social sectors in collaboration with government departments, academia, and industry. The PM-STIAC is one of the catalysts for such activities and also oversees their implementation. The organization has nine key missions: Natural Language Translation, Quantum Fron-

tier, Artificial Intelligence, National Biodiversity Mission, Electric Vehicles, Bioscience for Human Health, Waste to Wealth, Deep Ocean Exploration, and Accelerating Growth of New India's Innovations (AGNI).

Sood is a holder of two US and five Indian patents and was awarded the Padma Shri in 2013 for his outstanding contributions to science. He has made extensive research in hard and soft condensed matter physics, focusing on Raman scattering and nanotechnology. He is recognized for several ground-breaking inventions and innovations that are considered to be of daily and scientific value. In 2003, he produced electrical impulses by passing liquids over solids or through nanotubes. This phenomenon is known as the 'Sood Effect' among the scientific community.

Sood was born on 26 June 1951 in Gwalior, Madhya Pradesh. He earned a Bachelor's degree in Physics from Panjab University, Chandigarh in 1971, and a Master's degree from the same university. He later went on to earn his Ph.D. from IISc in 1982. Between 1973 and 1988, he served as a scientist at the Indira Gandhi Centre for Atomic Research in Kalpakkam, Tamil Nadu, before undertaking post-doctoral research as a Max Planck Fellow at

the Max Planck Institute for FKF in Stuttgart, Germany. In 2015, Sood was elected a Fellow of the Royal Society (FRS). Since 2019, he has been on the Infosys Prize Physical Sciences jury. Sood has published over 450 peer-reviewed research articles and papers in national and international journals. He has earned over a dozen honours from various institutes for his numerous accomplishments. In 2000, the The World Academy of Sciences (TWAS) recognized Sood's contributions by awarding him the TWAS Prize in Physics. Among many other honours, he received the Shanti Swarup Bhatnagar Prize in 1990, the National Award in Nanoscience and Nanotechnology from the Government of India, the Nano Award from the Government of Karnataka, and the Vigyan Ratan Award from Punjab University. He is also one of the Executive Editors of an international journal, *Solid State Communications*. He was the President, Indian National Science Academy (2017–2019), Secretary General, The World Academy of Sciences (2013–2018) and President, Indian Academy of Sciences (2010–2012).

Arjun R. Krishnan  
e-mail: arjunkriz92@gmail.com