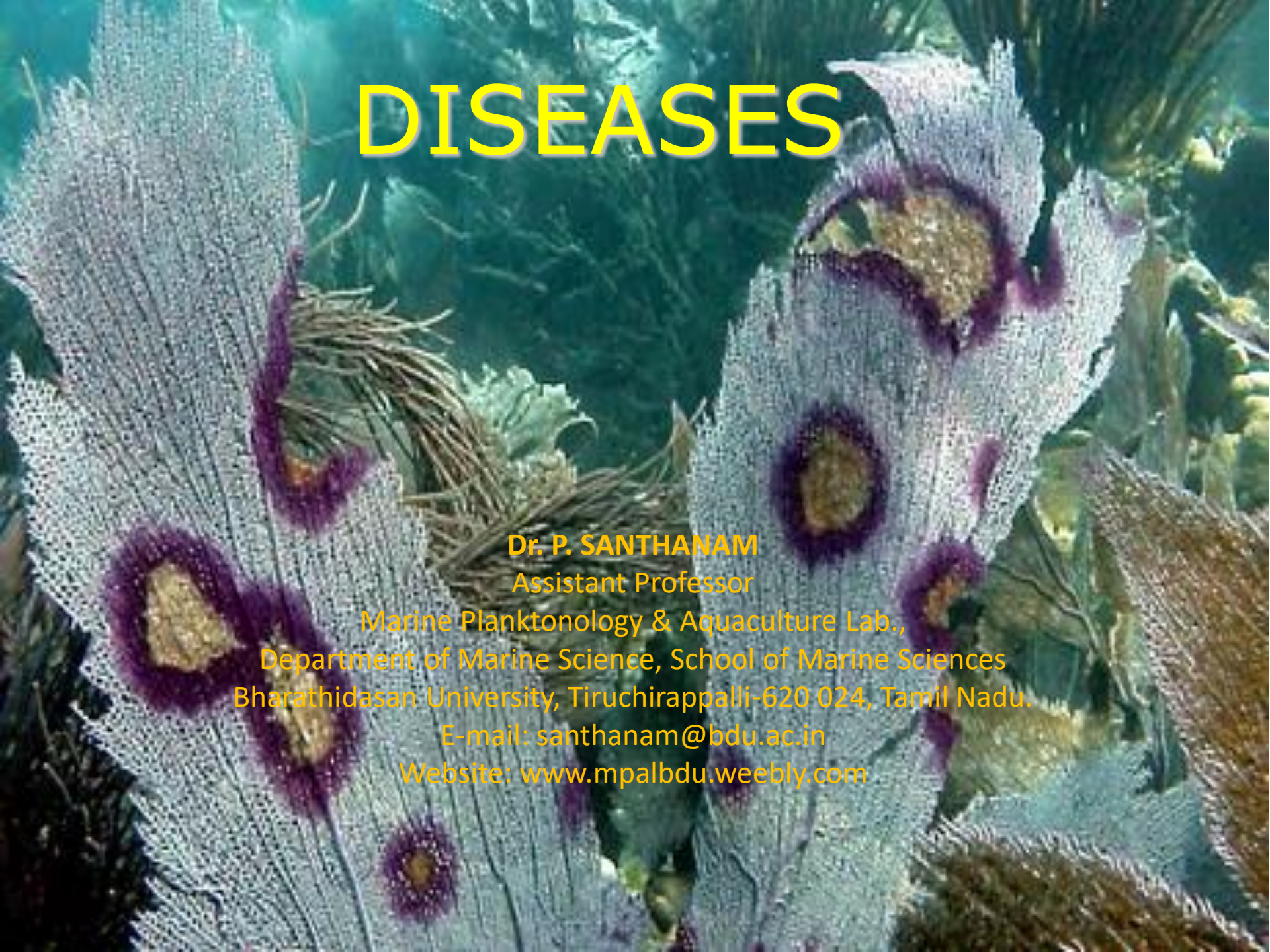
DISEASES



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DISEASES

Marine mammals, sea turtles, fish, corals, shellfish and sea grasses have exhibited increased levels of disease due to pollution, injuries and unusual environment perturbations

DISEASES

- Parasites from cat feces are causing-deadly brain damage in California sea otters.
- A combination of toxic chemicals from industrial effluent and virus killing California sea lions.
- Red tide algal blooms, *Karenia brevis* algae produce brevetoxins, affect the lungs of manatees, sea turtles, birds and fishes.
- Sea lion cancer, due to persistent organic pollutions.

- Veterinary pathologists from the California Department of Fish and Game's Marine Wildlife Care and Research Center have examined otters discovered sick or dead in the Morro Bay/ Pismo Beach area and have determined that the majority were infected with a single-celled parasite called *Sarcocystis neurona*.

- Most had enlarged lymph nodes and microscopic evidence of brain inflammation. Infective "eggs" of *Sarcocystis neurona* are shed in the faeces of the opossum (a non-native species in California).

- This parasite causes damage to the brain and other tissues of sea otters and is commonly fatal.

- Scientists determine sea otter deaths were associated with brain parasite, *Sarcocystis neurona*

- On the beaches of the Hawaiian islands, monk seals are dying from a pathogen in cat feces that is carried to the ocean in polluted runoff and sewage.

- Some of the infectious **diseases** that pose a risk to the Hawaiian **monk seal** population include distemper viruses, West Nile virus, *Leptospira* spp., and *Toxoplasma gondii*.

Diseases in fish

Bacterial infections:

- Fin rot and ulcers are a serious threat to extinction.

Disease in Prawn:

- Because of poor water quality and high levels of nutrients, fouling inter genes with movement and respiration especially by protozoa (*Zoothaminium* spp.), Algae, Bacteria (*Leucothrix* spp.) and some fungi.

Viral Diseases:

- Hepatopancreatic parvo-like virus **(HPV)**
- Monodon Baculovirus **(MBV)**
- White spot syndrome virus **(WSSV)**

- **Nutritional, toxic and environmental diseases:**
  - Soft shelling
  - External fouling
  - Gill diseases
  - Tail and appendage damage

Fin Rot Diseases in fish

Fin rot is a common symptom of a bacterial **disease** that can affect a variety of **fish**, from Betta **fish** to goldfish. It is often caused by a dirty tank, poor care, or exposure to other **fish** who have infectious **diseases**. Your infected **fish** may have fins that appear to be torn and ragged, as if they are **rotting** away.

Ulcers in fish

Bacterial ulcers are a very common problem in fish and seem to strike ornamental and pond fish such as goldfish and koi more often than other types.

Hepatopancreatic parvo-like virus (HPV) disease in shrimp

Typically affects mid-juvenile stages with signs of necrosis and atrophy of the hepatopancreas, poor growth rates, anorexia and reduced preening with a concurrent increase in surface and gill fouling by epicommensal organisms. Increased mortality, particularly under stress or crowding conditions has been noted. Although HPV has been accused of causing serious disease losses on farms, it is seldom observed alone and usually occurs in multiple agent epizootics with opportunistic pathogens like *Vibrio* sp.

Monodon Baculovirus (MBV)

Lethargy, anorexia, dark coloured, and with heavy surface fouling. Acute MBV causes loss of hepatopancreatic tubule and midgut epithelia and consequently, dysfunction of these organs, often followed by secondary bacterial infections. MBV has been linked with high mortalities (over 90%) in late postlarvae and juvenile shrimp in many culture facilities.

White spot disease in shrimp

White spot syndrome (WSS) is a viral infection of penaeid **shrimp**. The **disease** is highly lethal and contagious, killing **shrimps** quickly. ... The **disease** is caused by a family of related viruses subsumed as the **Whitespot** Syndrome Baculovirus complex (WSSV) and the **disease** caused by them as **white spot** syndrome (WSS).

NUTRITIONAL, TOXIC AND ENVIRONMENTAL DISEASES

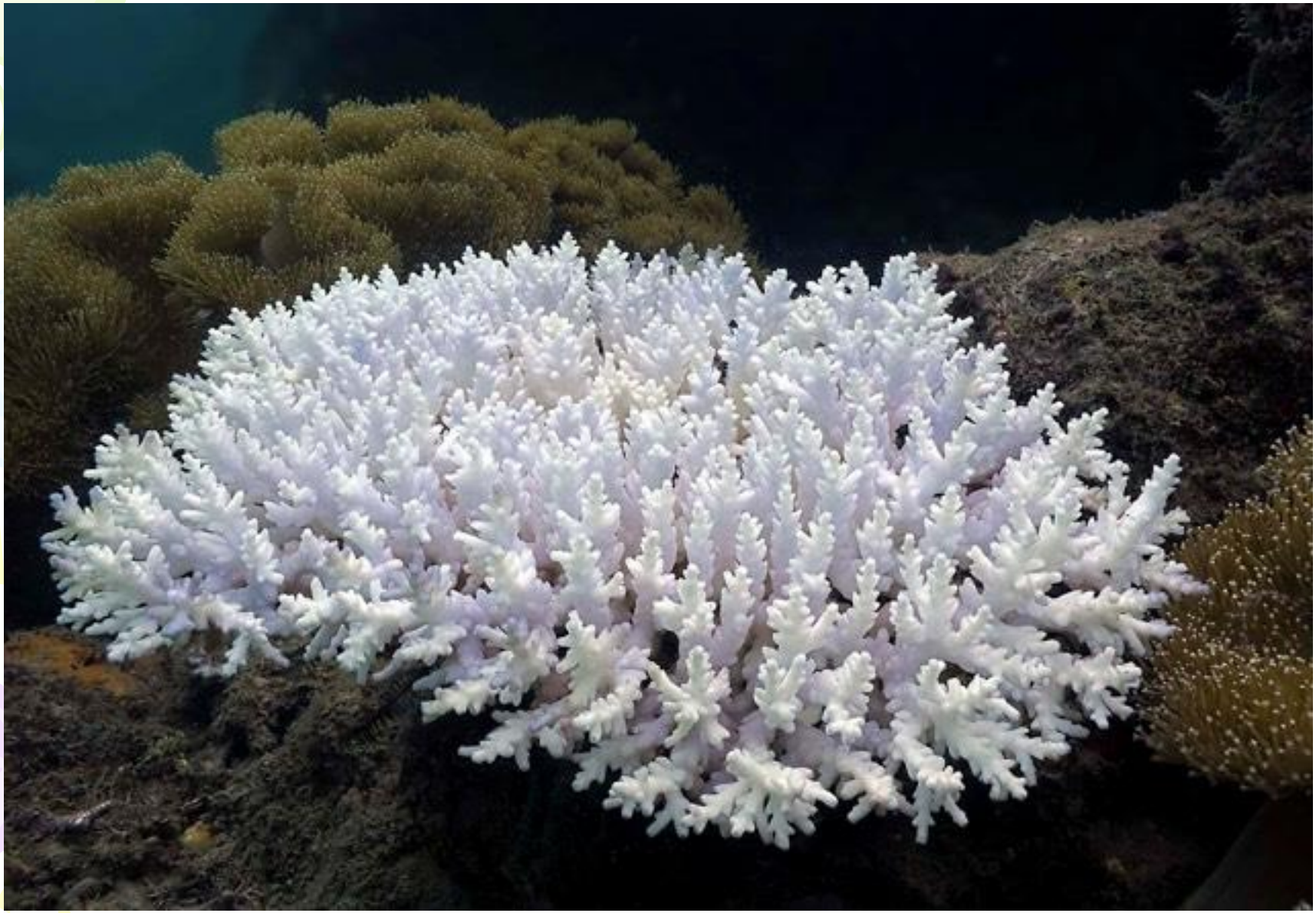
The affected **shrimp** has a **soft** carapace with a gap between the muscle tissue and exoskeleton, shrunken hepatopancreas. Loose **Shell Syndrome** (LSS) has been reported in the cultured Penaeus monodon since 1998 in India. It is a chronic **disease** of farmed **shrimps** in Tamil Nadu, Southeast coast of India.

Coral Diseases

- Coral bleaching
- Black band disease
- Skeletal eroding band
- White syndrome
- Brown band
- Blank necrosing syndrome
- Pink spot
- Coral tumors

In Caribbean reefs, 80% of coral has been lost due to disease in last 20 years.

Coral bleaching



Black band disease

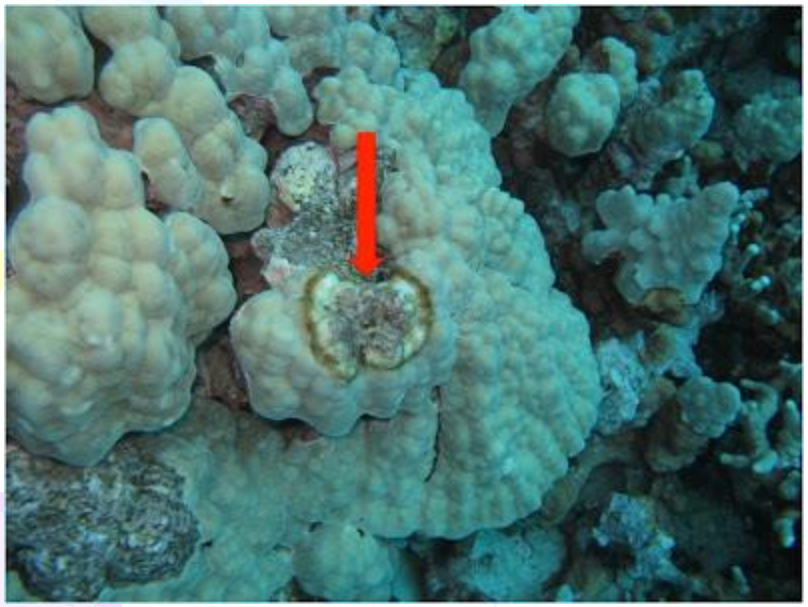
Black band disease is a **disease** when **corals** develop a **black band**. It is characterized by complete tissue degradation due to a pathogenic microbial consortium The mat is present between apparently healthy **coral**tissue and freshly exposed **coral** skeleton.

Skeletal eroding band

Skeletal eroding band (SEB) is a ciliate infection associated with tissue loss in **corals**

Pink spot

White Syndrome (WS) is a collective term for coral disease lesions showing a sharp demarcation between apparently healthy coral tissue and the bare coral skeleton, where the tissues have been removed rather than becoming pale or 'bleached'.



Brown band diseases in coral

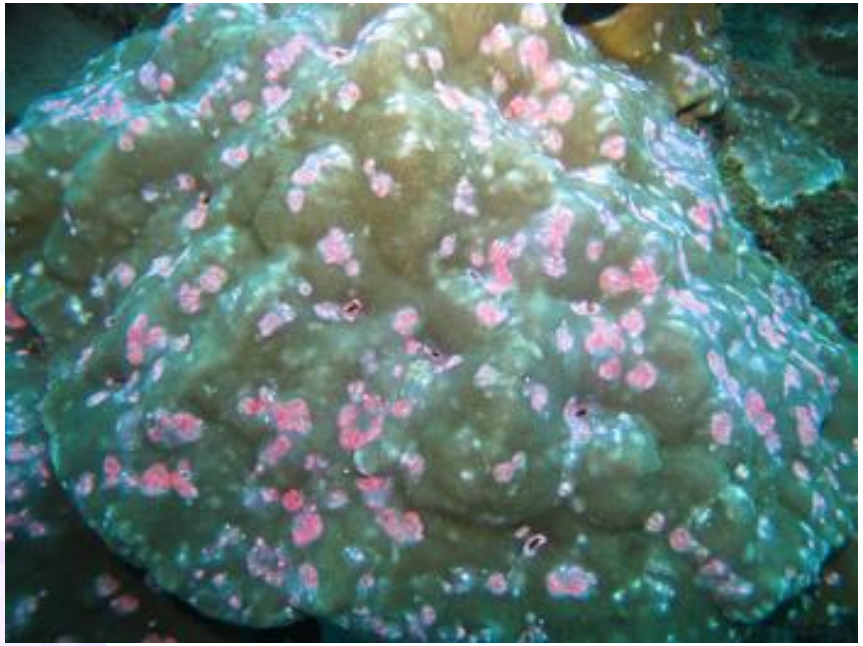
A ciliate associated with the **coral** disease **brown band** (BrB) was identified as a new species belonging to the class Oligohymenophorea, subclass Scuticociliatia. ... Seven**coral** diseases on the Great Barrier Reef (GBR) have been described previously (42), although their causative agents remain largely undescribed.

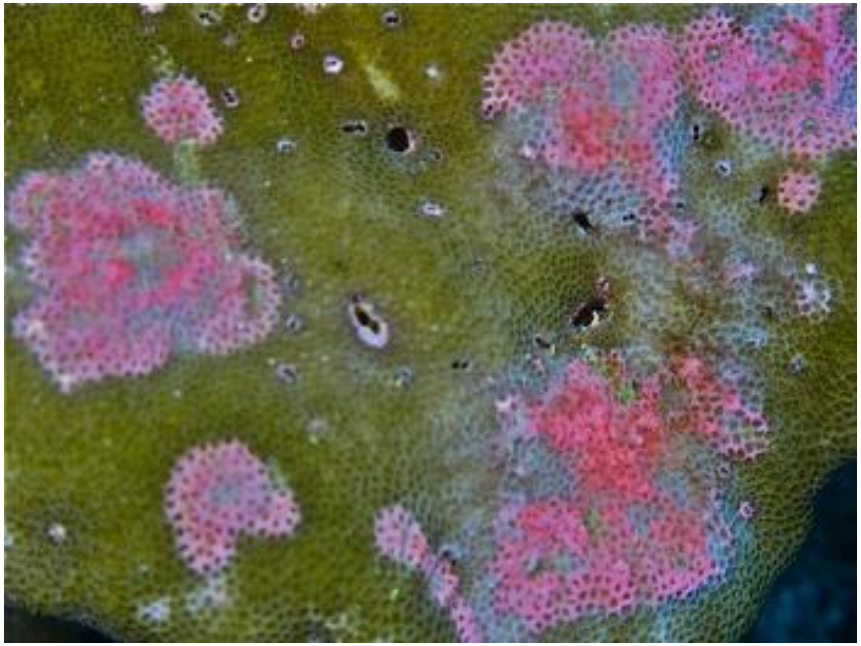
Blank necrosing syndrome

Blank necrosing syndrome or Dark spots disease, probably caused by fungal pathogens.

Pink spot

Bright pink spots or lines can appear on the surface of *Porites* due to different mechanical disturbances and subsequent recovery. The pink spot disease is an infection of *Porites* by trematode larvae manifesting as pink swollen nodules and ultimately leading to predation by fish.





Coral Tumers

A combination of environmental stresses coupled with an injury inflicted on the corals are possible stimuli that initiate the development of these abnormal growth through either bacterial attack or the development of an aberrant polyp during tissue repair.