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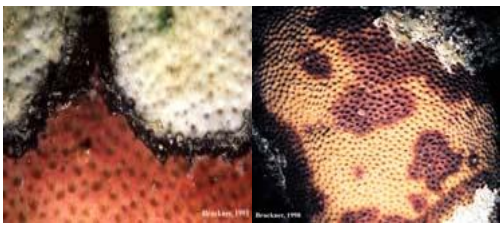
BLACK BAND DISEASE IN CORALS OF PALK BAY, INDIA

Recent study undertaken by the scientists of SuganthiDevadason Marine Research Institute at Tuticorin has indicated the prevalence of black band disease in coral population, fringing along the northern coast of Mandapam (from Vethalai to Koilvadi) and Rameswaram Island (from Pamban, Thangachimadamto Rameswaram north).

Six types of diseases were recorded: Pink Spot predominantly in *Porites* sp.; Black Band among *Acropora, Platgyra, Favites* and *Favia*species; White Spot in *Porites*sp.; White Band in *Acropora* and *Montipora*sp.; White Plague in *Porites, Favia* and *Favites*sp.; Yellow Band in *Porites*sp. To study the extent of the disease, the affected corals with back band disease were tagged and the subsequent regular monitoring indicated that the expansion of discolouration was 3 cm per month.

Photos from NOAA's CoRIS (Coral Reef Information System) –for educating the readers



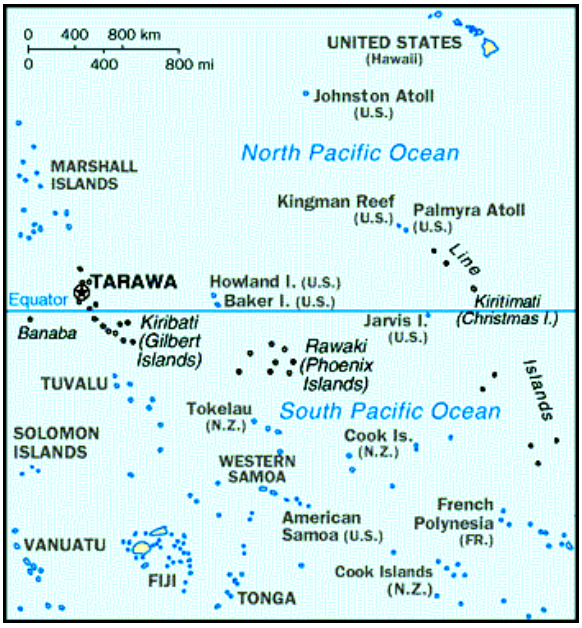
Black-band diseasedisease Dark-spots disease

White-band diseasedisease White plague disease

Generally, it is believed that the poor water quality in the coral environment may the route cause for the diseases in corals. The disease in the corals of Palk Bay may be resultant of higher value of opportunistic pathogens such as *Vibrio* sp., *Salmonella* sp. and *Pseudomonas* sp. recorded in the water near the Mandapam jetty, where the maximum percentage ofblack band disease was recorded.In the Philippines also, 6 types were reported, while it was 8 types in Australia's Great Barrier Reefs and 22 types in Caribbean reefs.

SINKING OF KIRIBATI ISLANDS – AN ILL- EFFECT BY CLIMATE CHANGE

The Kiribati Island comprising 33 coral atolls, is located on either side of Equator in the Pacific Ocean. The area of the Island is divided into three major groups, namely, Kiribati (Gilbert Islands), Rawaki (Phoenix islands) and Line Islands with a population of about 1 lakh as on 2010. The highest elevated place is just 2 metres above the sea level.



The contamination of freshwater regime as well as the agricultural lands and the erosion of beach areas took place due to the raising of sea level. As there was no solution to escape from this perennial man-made ill-effect of climate change, the present government is on to implement a master plan, through which the population of Kiribati will be settled permanently in the neighbouring islands such as Fiji. In this connection, the government is intended to buy 6,000 acres of land in Fiji for the construction of homes, as part of resettlement. Another sinking group of islands in the Indian Ocean is the Maldives, which may also go in the way of Kiribati, to escape from the rising of sea level.

BLACK BAND DISEASE IN CORALS OF GREAT BARRIER REEF OF AUSTRALIA

The reason for triggering coral mortality in Greater Barrier Reef is due to the chemical migrogradients. A critical examination of those corals affected with black band disease has indicated that the band is one to two centimeter wide and consisted of a microbial community, constituted by phototrophic cyanobacteria, sulfur oxidizing bacteria and sulfate reducing microorganisms. The corals and their surrounding endosymbiotic algae are affected by three factors immediately by toxic sulfide, anoxia and a lower pH in the bacterial mat and the coral tissue.

The Australian scientists were able to measure the oxygen, sulfide and pH in the coral tissue by microsensors and found the vast difference between the infected tissue and the tissue in the preliminary stage of disease. In the diseased coral tissue, two zones have developed, the first one a phototrophic at the top, in which the cyanobacteria produced oxygen and a lower anoxic zone, in which the bacteria degraded the necrotic coral tissue. Thus, the sulfide has formed in the degradation process. The increased concentration of sulfide around the necrosing tissue and the subsequent decrease of oxygen has led to the spreading of the lesions in the surrounding healthy tissue and caused the faster spreading of the black band disease.In summer months, it is expected that the black band disease can spread at a rate of one centimeter per day and can causethe mortality of whole coral colonies within a short time.

Source: Internet and sent by

P. Mohanakrishnan

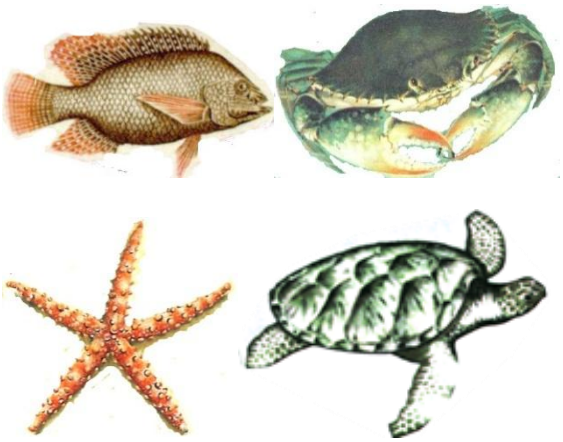
FAUNA OF INDIA

Taxonomic Group	No. of species		% by India
	World	India	
PROTISTA			
Protosticta	31250	2577	8.24
Total for Protosticta	31250	2577	8.24
ANIMALIA			
Mesozoa	71	10	14.1
Porifera	4562	486	10.7
Cnidaria	9916	842	8.49
Ctenophora	100	12	12
Platyhelminthes	17500	1622	9.27
Nemertinea	600		
Rotifera	2500	330	13.2
Gastrotricha	3000	100	3.33
Kinorhyncha	100	10	10
Nematoda	30000	2850	9.5
Nematomorpha	250		
Acanthocephala	800	229	28.6
Sipuncula	145	35	24.1
Mollusca	66535	5070	7.62
Echiura	127	43	33.9
Annelida	12700	840	6.61
Onychophora	100	1	1
ARTHROPODA			
Crustacea	35534	2934	8.26
Insecta			6.83
Arachnida	73440		7.9
Pycnogonida	600		2.67
Pauropoda	360		
Chilopoda	3000	100	3.33
Diplopoda	7500	162	2.16
Symphyla	120	4	3.33
Merostomata	4	2	50

Contd.

Taxonomic Group	No. of species		% by India
	World	India	
Phoronida	11	3	27.3
Bryozoa (Ectoprocta)	4000	200	5
Endoprocta	60	10	16.7
Brachiopoda	300	3	1
Pogonophora	80		
Praipulida	8		
Pentastomida	70		
Chaetognatha	111	30	27
Tardigrada	514	30	5.83
Echinodermata	6223	765	12.3
Hemichordata	120	12	10
Chordata	48451	4952	10.2
Protochordata			
Cephalochordata +Urochordata)	2106	119	5.65
Pisces	21723	2546	11.7
Amphibia	5150	209	4.06
Reptilia	5817	456	7.84
Aves	9026	1232	13.7
Mammalia	4629	390	8.42
Total-Animalia	1196903	####	7.25
Grand Total Protosticta + Animalia	1228153	####	7.09

Source: Alfred (1998)



INVASIVE AFRICAN CAT FISH *CLARIUS GARIEPINUS* IN VEMBANAD LAKE, KERALA

The African freshwater cat fish, *Clariusgariepinus*is known to attain a maximum size of 1700 mm/29 kg. It was illegally brought into India from Bangladesh and cultivated in Assam, West Bengal, Andhra Pradesh and Kerala from 1990. The recent experimental fishing carried out during January-July 2007 in the southern sector of Vembanad Lakenetted 18 specimens in the size range of 200-750 mm in length. Among the captured fish, 12 were males (11 immature and 1 mature) and 6 females (4 immature and 2 mature). The result has indicated that the escapement of this invasive fish from the culture ponds, into the natural environment, the subsequent capture of them by the local fishermen and their availability in the local markets. Because of its carnivorous behavior, the actual effect on native fish and crustacean fauna will be known in the future. The illegal culture is so rampant, in spite of the banning of this invasive species cultivation in India by the central government.

Source: Wikipedia &Krishnakumar*et al*. (2011)-*J. Threatened Taxa,* **3**(5): 1737–1744.

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