

However, it is interesting to note that all affected cells did not contain virus particles although they showed the typical lesions of MD. This may be due to the presence of virions in these cells in a very low concentration which is often missed by electron microscopic examination or they are present for a very short time only or as a viral genome^{4,5,8}. Such lesions or the virions were not seen in the control chicks.

Thus this finding of the virus particles in the ovary tumor is significant. It is fortuitous in view of its rare finding and no other report in this organ of infected bird.

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DISJUNCT DISTRIBUTION OF PYROSOMIDS IN THE INDIAN OCEAN

PYROSOMIDS are free swimming, holoplanktonic colonial tunicates with powerful luminous organs. They are often oceanic having circum-global distribution in the warmer seas and generally found abundant in the upper 500 m. The size of the colony varies from 1-12 cm and at times attains upto 4 meters in diameter. Of the nine species and seven sub-species, *Pyrosoma atlanticum* is the most widespread and abundant species in the Pacific, Atlantic and Indian Oceans (Thompson, 1948). The distribution of pyrosomids in the Indian Ocean is incompletely known.

The present report deals with the general distribution of pyrosomids, collected from the zooplankton data of the International Indian Ocean Expedition. The area of coverage extends from 25° N to 50° S. About 90% of the total collections (1927) have been made by the Indian Ocean Standard Net from 200 m depth to the surface by means of vertical haul. Of all the areas explored, the pyrosomids are found to be present only in 16% of the total collections. The more common occurrence is found in the equatorial zone with the maximal number of records. The common occurrences are found in the Bay of Bengal and the west Australian sea. The south-central Indian Ocean and the south African sea show poorest occurrences. The most interesting feature in the present observation is the disjunct distribution of pyrosomids in the Arabian Sea. Except a single record in the area off Karachi no other samples in the area north of 10° N and west of 78° E contained these organisms. In the southern Arabian Sea there are four records. However, Sewell (1953) has recorded *Pyrosoma spinosum* in the area off South Arabia, Central Arabian Sea, Gulf of Aden and southern Arabian Sea. *Pyrosoma verticillatum*, *Pyrosoma aberniosum* and *Pyrosoma atlanticum* have also been recorded by him in the southern Arabian Sea. *P. aberniosum*, *P. verticillatum*, *P. atlanticum*, *P. agassizi*, *P. operculatum*, *P. giganteum*, *P. spinosum* and *P. triangulum* have been recorded by Neumann (1913) in the equatorial zone between 8° N and 10° S. The reason for the paucity in the present distribution of pyrosomids in the Arabian Sea is not clearly known. The watermass of the northern Arabian Sea is well known for two unique hydrological properties such as high salinity (> 36‰) and oxygen minimum at the sub-surface layers (< 1 ml/l) which, perhaps, could act as a strong barrier for the distribution of pyrosomids in the northern Arabian Sea.

The pyrosomids at times appear to be highly seasonal with restricted geographical distribution. While they are found to be more common in the southern parts of the east Australian sea there is sparse records in the northern part and total absence in the plankton samples of the Great Barrier Reef Expedition (Thompson, 1948). From the distribution of *P. atlanticum* he visualises that they are most common in the colder waters of the Australian sea and found in maximal abundance between 250 m and 500 m. The number of colonies were only 75 in 1940. Very large numbers occurred in the cooler period of 1938-39. It was absent from October-January 1941-42 and reappeared in March-June 1942. Therefore the disjunct distribution of pyrosomids in some parts of the Indian

Ocean might be due to the combination of seasonal, hydrological and geographical factors and also lack of sampling at depths. As the pyrosomids are colonial tunicates and large in size they can easily avoid slow moving plankton nets. As Thompson (1948) reports, the pyrosomids are maximum abundant in between 250 m and 500 m even though they are more common in the upper 200 m. If it is so, the lack of sampling below 200 m depth in the present observation might also be a factor for paucity in distribution. The future work on the seasonal and vertical distribution of pyrosomids may reveal the ecological factors which control the distribution of pyrosomids in the Indian Ocean.

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A NEW SPECIES OF *XENOSPORIUM*

THE authors collected dead, stem pieces of *Dendrocalamus* sp. bearing black patches of fungal growth from Darjeeling, during September, 1972. The fungus was found to be an interesting species of *Xenosporium*. The material was sent to C.M.I., Kew, for proper identification. Dr. M. B. Ellis identified it as a new species of *Xenosporium*. The conidia serve to distinguish this new species from those nearest to it, *X. pleurococcum* and *X. larvale*; in *X. larvale* they are 13-20 μ in diam., 6-10 μ thick, obtuse at the apex and very pale, whilst in *X. pleurococcum* they are mostly 30-35 μ in diam., up to 20 μ thick and very much darker. This is being described as *Xenosporium indicum* sp. nov.

Xenosporium indicum sp. nov.

Coloniae tenuiter effusae, atrae. Mycelium superficiale ex hyphis repentibus, septatis, ramosis, brunneis, laevibus, 3-5 μ latis compositum. Conidiophora ex hyphis lateraliter oriunda, erecta, simplicia, hyalina vel pallide olivaceo-brunnea, laevia, septata, 18-32 μ longa, 3-5.5 μ crassa. Conidia singula ex apice conidiophori oriunda,

curvata vel subreniformia, ad apicem acuta, ad basim truncata pallide brunnea, muriformia, cellis extimis hyalina, 18-27 μ in diam., 8-12 μ crassa; conidia secundaria globosa, 4-6 μ diam.

Habitat in caulibus emortuis *Dendrocalami*, Darjeeling, India, ix, 1972.

Specimen depositum apud C.M.I., Kew, Herb. IMI 170455 (a) typus. Coll. J.U.M.L. 259.

Colonies thinly effuse, black. Mycelium superficial, composed of branched, septate, repent, brown, smooth 3-5 μ wide hyphae. Conidiophores arising laterally from the hyphae, erect, simple, hyaline to pale olivaceous brown, smooth, septate, 18-32 μ long, 3-5.5 μ thick. Conidia formed singly at the apex of the conidiophore, curved to subreniform, pointed at the apex, truncate at the base, pale brown, muriform, with the end cells hyaline, 18-27 μ in diam., 8-12 μ thick; secondary conidia globose, 4-6 μ diam. (Fig. 1). On dead stems of *Dendrocalamus* sp., Darjeeling, India, September, 1972.

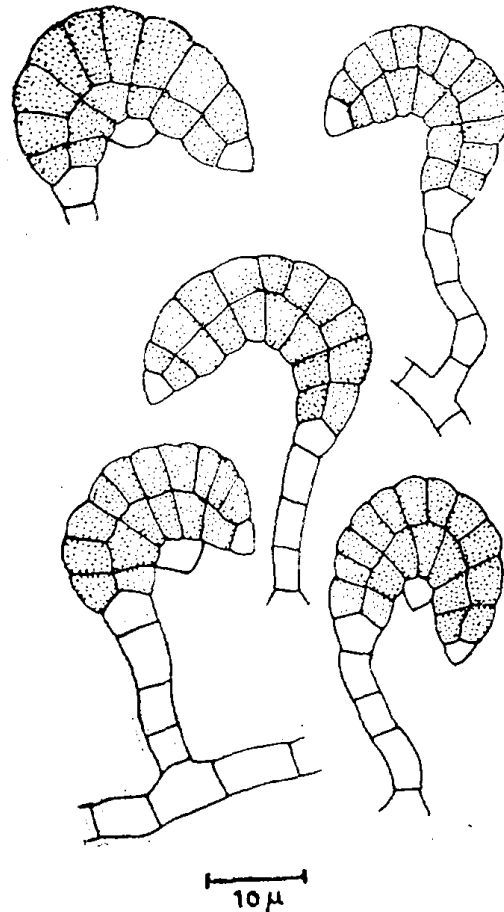


FIG. 1. Camera lucida drawing of conidiophores, conidia and secondary conidia.