

SHORT SCIENTIFIC NOTES

A Note on the Growth of the Green Mussel *Mytilus viridis* (Linn.) in Ratnagiri Waters

Mytilus viridis known as the green mussel has a wide distribution in the Indo-Pacific region. It occurs on the rocks in the littoral areas of the coast of Ratnagiri. Mussels have been successfully cultured in France, Spain, Norway, England and other European countries. Growth of mussels being more rapid in tropics, the possibilities of mussel culture with high yield per unit space and time have been indicated (Davis, 1969)¹.

With a view to study the growth of *M. viridis* in Ratnagiri waters, observations of the growth on the natural beds and as obtained in hanging cages and on hanging ropes were made. A heavy spat was located in the month of October, 1972 near the old jetty in the Ratnagiri light house area. Monthly samples were collected from this area from October, 1972 till May, 1973. The average growth rate of *M. viridis* in each month is given in Table I.

TABLE I

Sr, No.	Month		Average size in mm	Average weight in gm
1	October,	1972	8.0	0.044
2	November,	1972	14.0	0.325
3	December,	1972	25.0	1.725
4	January,	1973	31.0	3.036
5	February,	1973	38.0	5.690
6	March,	1973	44.0	9.110
7	April,	1973	53.0	14.000
8	May,	1973	61.0	20.000

The spat which was 8.0 mm in the month of October, 1972 grew to a size of about 61 mm in the month of May, 1973, giving an average growth rate of 7.55 mm per month. Similarly the growth in weight achieved was about 3.0 gm per month.

Observations made on growth of *M. viridis* in hanging cages and on ropes were similar. The average length and weight per month achieved was 8 to 10 mm and 4 to 5 gm respectively. Growth in cages and on ropes was thus slightly faster than in the naturally occurring mussels beds found in the locality.

The growth of *M. edulis* in Wales is about 25 mm in a year, whereas the same species grows to about 75 mm during one year in Spain. In comparison with the European species, the *M. viridis* found in Ratnagiri grows well attaining a size of about 90 mm in a year. In view of the excellent growth in the local species, a good scope exists in undertaking its scientific culture.

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Chlorophyll Stability Index (C.S.I.) in Different Varieties and Hybrids of Coconut

Heat stability of the chlorophyll pigments has been described as an index of drought tolerance in plants and direct correlation between low C.S.I. values and drought resistance has been reported in pine¹, rice² and sugarcane³.

A study was undertaken to determine the chlorophyll stability index in 5 different cultivars of coconut, viz., West Coast Tall, Dwarf Green, Dwarf Orange, Tall × Dwarf and Dwarf × Tall. The sample size was 20 trees in each category and leaf samples were drawn as per the procedure standardised earlier in this Institute for the determination of chlorophyll⁴.

Chlorophyll stability index was determined, following the method described by Murthy and Majumder⁵, with slight modifications. The mean C.S.I. values are found to be significantly higher in the West Coast Tall (20.7) compared to the Tall × Dwarf (13.2), Dwarf × Tall (13.2), Dwarf Green (13.7) and Dwarf Orange (10.6). A point of interest in this study is that the hybrids, which are the high yielders, have recorded low C.S.I. values, indicating, perhaps, their superiority in drought tolerance over the West Coast Tall, which is the common and widely cultivated variety. However, the lowest C.S.I. values were recorded for the Dwarf Orange variety. In the light of these results, it would be worthwhile to investigate

the drought tolerance of the different varieties and hybrids of coconut in the field conditions.

The authors are grateful to Shri K. V. A. Bavappa, Director, for his keen interest in this study.

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May 31, 1973.

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Records of *Microascus manginii* and *Scopulariopsis brumptii* from India

During the survey of soil fungi from agricultural fields of Western Rajasthan, the authors isolated *Microascus manginii* and *Scopulariopsis brumptii*. Barron *et al.*¹ had reported the genus *Scopulariopsis* as the conidial stage of *Microascus manginii* but during the present study the authors were not able to detect this relationship.

Microascus manginii (Loub.) Curzi., *Boll. Staz. Pat. Veg. Roma*, 11, 60, 1931.

Perithecia spherical, dark-brown to black, carbonaceous, papillate, glabrous, 160-205 μ in diameter; asci spherical to ovoid, sessile, 8-12 \times 12-16 μ ; ascospores heart-shaped, markedly concave, pale red-brown, 5.4-6.4 \times 2.7-5.5 μ .

The culture has been deposited with C.M.I., Kew, Herb. IMI 166256 type, Coll. J.U.M.L. 190. *Scopulariopsis brumptii* Salvanet-Duval, *These. Fac. Pharm. Paris*, 23, 58, 1935.

Colonies slow growing, at first white, then grey, finally dark blackish-brown. Anellides often arising singly from sides of hyphae or ropes of hyphae, but sometimes formed in groups of 2-3 on short stipes, ampulliform or lageniform, pale-grey or olivaceous-brown, 6.3-9.5 μ long, swollen part 2.5-4.0 μ thick; conidia black or dark-brown in mass, pale when viewed singly, obovoid to subspherical, truncate at the base, smooth or sometimes slightly verruculose, 4-6.3 \times 4-5.4 μ .

The culture has been deposited with C.M.I., Kew, Herb. IMI 166265 type, Coll. J.U.M.L. 199.

We are thankful to Drs. Onions and Hawksworth, C.M.I., Kew, for the help in the identification of the fungi. Thanks are also due to Prof. H. C. Arya for providing laboratory facilities.

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Chilo partellus (Swinhoe) A New Host of *Aspergillus flavus* Link and *Fusarium* sp.

Chilo partellus is a serious pest of maize and sorghum in India. Mortality of its larvae owing to microbial infection was observed during the course of population studies in the field. They were infected with the fungus *Aspergillus flavus* during June, 1971. The moribund larvae exhibited hardening, blackening and mummification of their bodies besides reduction in size. The hard mummies were covered anteriorly by the fungus. The borer larvae were infected with *Fusarium* sp. during January-February in maize stalks. They also showed symptoms similar to those infected with *A. flavus*. In addition, their bodies were swollen in the middle and had necrotic interpleurite spots. The hyphae of the fungus emerged from these spots and covered the mummy giving it a white cottony appearance.

The present report of natural mortality of maize borer larvae owing to *A. flavus* and *Fusarium* sp. is the first record from India. They were earlier reported to die of disease caused by the fungus *Beauveria densa* (Link) (Mathur *et al.*, 1966 a); the nematodes *Rhabditis* sp., *Neoaplectana* sp. and *Ponagrolaimus* sp. (Mathur *et al.*, 1966 b) and the protozoan *Tetrahymena* sp. (Srivastava *et al.*, 1966).

The research work was financed under PL-480 Project A-7-Ent-43 by the Agricultural Research Service of the U.S. Department of Agriculture. The authors are grateful to Dr. Yoshinori Tanada and Mr. Gerard M. Thomas of the University of California, U.S.A., for identification of the pathogens.

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