7th International Phycological Congress
Thessaloniki, Hellas 2001
18-25 August

Programme
SEVENTH INTERNATIONAL PHYCOLOGICAL CONGRESS
18 - 25 August 2001
Thessaloniki

International Phycological Society

ARISTOTLE UNIVERSITY OF THESSALONIKI
LIFE HISTORY AND PHENOLOGY OF COLPOMENIA SINUOSA (SCYTOSIPHONACEAE, PHAEOPHYCOTA) IN THE AZORES

F. M. Toste, M. I. Parente, A. I. Neto & R. L. Fletcher

Secção de Biologia Marinha, Departamento de Biologia, Universidade dos Açores, Rua Da Mãe de Deus, 9500 Ponta Delgada, Azores, Portugal
University of Portsmouth, Institute of Marine Science, Ferry Road, Eastney, Portsmouth, Hampshire, PO4 9LY, United Kingdom

Colpomenia sinuosa (Merkel ex Roth) Derbes & Solier (Scytosiphonaceae, Phaeophycota) is a common species in the rocky intertidal shores of São Miguel, Azores, mainly in spring and summer. Fertile gametophytes appeared during all year. Life-history studies of this species were carried out in culture. The species showed a heteromorphic life-history pattern with an alternation between erect thallus and filamentous prostrate thalli. Sexual reproduction was reported and zigogoe gave rise to filamentous prostrate sporophyte generation bearing unilocular and plurilocular sporangia. Unispores developed into sacculate gametophytes and plurispores gave rise to filamentous sporophytes. Unfused gametophytes developed into filamentous prostrate sporophytes producing unilocular sporangia in both short-day and long-day conditions at 15-22 °C. Zoospores released from unilocular sporangia gave rise to sacculate gametophytes. Zooids from field gametophytes developed directly into gametophytes.

PHOTOPROTECTIVE ROLE OF MYCOSPORINES-LIKE-AMINO ACIDS (MAAS) IN PORPHYRA LEUCOSTICTA: FACTORS CONTROLLING THE BIOSYNTHESIS OF THESE PIGMENTS.
Korbee Nathalie, Aguilera José & Figueroa Félix López

Departamento de Ecología, Facultad de Ciencias, Universidad de Malaga. Campus Universitario de Teatinos s/n E-29071 Malaga SPAIN

Algae can protect themselves against excessive radiation in several ways, one method is via the production of UV-Absorbing substances used as natural sunscreens. Mycosporine-like amino acids (MAAs) which are characterized by a cyclohexenone or cyclohexenimine chromophore conjugated with the nitrogen substituent of an amino acid, having absorption maxima ranging from 310 to 360 nm and are present in marine macroalgae, specially in Rhodophyceae in different concentration and composition.

We studied the relation between the photoinhibition of photosynthesis and the contents of MAAs in the red alga Porphyra leucosticta after exposure to different level of photosynthetically active (PAR), UV-A and UV-B radiation obtained by means of selective cut-off filters. Photosynthetic measurements were carried out by means of a portable pulse amplitude-modulated fluorometer (PAM 2000) and MAAs were quantified by means of high performance liquid chromatography (HPLC). Photo inhibition of photosynthesis, measured by quantum yield of PSI1 and by the maximum electron transport rate was higher in treatment with high PAR+UV, secondly in high PAR, followed by low PAR+UV and finally low PAR. However, photosynthesis was fully recovered in all treatments after a few hours in darkness. These results indicating that Porphyra leucosticta is able to