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CHEMICAL INVESTIGATION OF THE INVASIVE ALGA CAULERPA TAXIFOLIA VAR. DISTICHOPHYLLA FROM SICILIAN COASTS

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Biological invasions by non-indigenous species have been widely recognized among the most important threats to the integrity of Mediterranean ecosystems, often resulting in huge economic and societal impacts. The success of non-indigenous macrophytes in the new range may be due to a variety of factors such as their vegetative reproductive strategy and synthesis of toxic compounds. These toxic compounds may influence native consumers by reducing their performance with negative implications for their overall grazing activity and, ultimately, for their ability to control the spread of the invasive algae in the new area. In particular, the invasive algae *Caulerpa taxifolia* (Vahl) C. Agardh (Ct) and *Caulerpa cylindracea* (Sonder) (Cc) are known to contain two main bioactive metabolites, the toxic sesquiterpene caulerpenyne (CYN) and the bisindolic pigment caulerpin (CAU), potentially acting as chemical stressors for several Mediterranean species. Novel and urgent questions have also been raised by the spread of *Caulerpa taxifolia* (Vahl) C. Agardh var. *distichophylla* (Sonder) Verlaque, Huisman e Procaccini along Italian and Turkish coasts. Although the levels of CYN in Ctvd collected in the Eastern Mediterranean were determined to be much lower than those determined for Ct in the Western Mediterranean, the possible presence of CAU in Ctvd still has to be ascertained. The present work confirms and quantify the presence of CYN in Ctvd from Sicilian coasts by means of liquid chromatography/mass spectrometry (LC-MS), while the same procedure did not allow detection of CAU in the algal extracts, thus supporting substantial differences in the chemical composition of the two *C. taxifolia* alien strains, and implying “different ecological effects on the resident biota”.