ned the structures of three lipopeptides (SR-A_1, SR-E, and SR-G). Later, SR-E has been also identified by a japanese group in a strain pathogenic to sugar cane.

Recently we have completed the structure determination of syringotoxin (ST), a metabolite produced by citrus isolates of the above bacterium. ST had been partially characterized several years ago by De Vay *et al.* The accompanying communication by Segre *et al.* gives details on our structural work. ST is strictly related to the syringostatins produced by a *P. syringae* pv. *syringae* strain isolated from lilac in Japan.

All the above reported metabolites are members of an apparently large family of new natural lipodepsipeptides which display a high antibiotic activity. Particularly interesting is the occurrence in all of them of the new amino acid 4-chlorothreonine, whose total synthesis has been recently completed in Rome. The chlorine atom can be replaced by bromine in both SR and ST when the fermentations are carried out in a medium deprived of Cl^- and supplemented with Br^- (see the accompanying communication by Grgurina *et al.*).

Some biological properties of impure SR have been reported by De Vay *et al.* several years ago; pure SR has been shown more recently by Takemoto *et al.* to affect transport phenomena at the level of the plasma membrane of eukariotic organisms. Biological tests with several of the above reported metabolites are presently under way in our laboratories.

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FURTHER STUDIES ON MINOR TOXINS PRODUCED BY THREE SPECIES OF *SEIRIDIUM* IN CULTURE

A. BALLIO,[1] A. EVIDENTE,[2] A. GRANITI,[3] G. RANDAZZO[4] and L. SPARAPANO[1]

[1] Dipartimento di Scienze biochimiche, Università di Roma «La Sapienza».
[2] Dipartimento di Scienze chimico-agrarie, Università «Federico II», Portici (Napoli).
[3] Dipartimento di Patologia vegetale, Università di Bari.
[4] Istituto di Industrie agrarie, Università «Federico II», Portici (Napoli).

Seiridium cardinale, a strain of *S. cupressi* and *S. unicorne* are associated with canker diseases of cypress (*Cupressus sempervirens*) in the Mediterranean area. Previous research has shown that five major phytotoxins were produced by these fungi in culture, namely: seiridin, *iso*-seiridin and seiricardine A by all the *Seiridium* species; seiricuprolide by *S. cupressi* and *S. unicorne*; and cyclopaldic acid by *S. cupressi*.

Further studies are in progress to elucidate the structures of five minor metabolites isolated from culture filtrates of the above mentioned fungal species. Chemical and spectroscopic data so far obtained indicate that three metabolites are bicyclic sesquiterpenes structurally related to seiricardine A, whereas the other two compounds are butenolides closely related to seiridins.