

## PHYTOCHEMICAL REPORTS

### ISOLATION OF BEAUVERICIN FROM *PAECILOMYCES FUMOSO-ROSEUS*

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**Key Word Index**—*Paecilomyces fumoso-roseus*; fungi; beauvericin; depsipeptide.

**Plant.** *Paecilomyces fumoso-roseus*. **Source.** Centraalbureau voor Schimmelcultures, Baarn, The Netherlands. **Importance.** Entomopathogenic fungus. **Previous work.** Morphological and taxonomical studies only. **Present work.** We wish to report the isolation of a depsipeptide, beauvericin, hitherto isolated only from *Beauveria bassiana* [1], this is also an entomopathogenic fungus.

#### EXPERIMENTAL

**Culture.** The strain of *Paecilomyces fumoso-roseus* was grown for 3 days at 27° in submerged culture in the following medium: peptone Difco (1% w/v), yeast-extract (0.2% w/v), dextrose (5% w/v) in H<sub>2</sub>O. The fungal mycelium (1.5 kg) was filtered, washed with H<sub>2</sub>O, and dried under suction, and then extracted with Me<sub>2</sub>CO (3 × 10 l); the combined extracts were taken to dryness.

**Identification of metabolites.** The residue (46 g), was partitioned between H<sub>2</sub>O (1 litre) and CHCl<sub>3</sub> (4 l.). After drying (Na<sub>2</sub>SO<sub>4</sub>) the CHCl<sub>3</sub> phase was evaporated, Residue dissolved in the smallest amount of CHCl<sub>3</sub> and chromatographed on Si gel (70 × 7.5 cm) using MeOH in CHCl<sub>3</sub> (0 to 4%), fractions being examined by TLC (CHCl<sub>3</sub>-MeOH 9:1) and pooled accordingly. After a fraction containing mixtures of triglycerides (1.8 g), free fatty acids (8 g) and steroids (0.5 g, mainly ergosterol), a single crystalline compound was obtained (2.4 g) which was identified as beauvericin on the basis of elemental analysis, MS, NMR and rotatory power measurements; all the data were in good agreement with those reported in the literature [1,2].

#### REFERENCES

1. Hamill, R. L., Higgins, C. E., Boaz, N. E. and Gorman, M. (1969) *Tetrahedron Letters* **49**, 4255.
2. Ovchinnikov, Yu. A., Ivanov, V. T. and Mikhaleva, I. I. (1971) *Tetrahedron Letters* **2**, 159.

### DEPSIDES FROM *LOBODIRINA MAHUIANA*

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**Key Word Index**—*Lobodirina mahuiana*; Roccellaceae; Lichen; depsides; atranorin.

**Plant.** *Lobodirina mahuiana* Follm. was collected on rock surfaces in Quebrada Las Lechuzas, Fray Jorge National Park, Coquimbo province, Chile on 30 March, 1974, and identified by J. Redón by comparison with isotype specimens.

**Isolation and characterization of the compounds.** The dry material (60 g) was first extracted with

boiling Et<sub>2</sub>O for 24 hr. The residue was taken to dryness and washed with acetone. Lecanoric acid (748 mg; 1.24%) and roccellic acid (96 mg, 0.16%) were crystallized by known methods [1] and identified by direct comparison with authentic material by TLC [2,3], mp, mmp and IR spectra [4]. Traces of atranorin were found.