

Abstract

This work describes the isolation, identification and the biological activity of different fungi-produced secondary metabolites. The natural products were extracted from fungus-strains, which either live as endophytic fungi (3184) or were found at extreme locations in China (3037, 3004), Egypt (2225) or South Africa (3304).

Six diterpenes 1-6 and cladosporin (7) were isolated from fungus-strain 3037. The biological tests showed that especially the substances 1 and 3 possess a very high antifungal activity.

From fungus-strain 2225 the isolation of the dehydrofusaricacid 8 and the fusaricacid 9 succeeded.

The natural products 10, 11 und 12 were isolated from fungus-strain 3184. Compound 10 was determined as ergosta-4,6,8(14),22-tetraen-3-one. The secondary metabolite 11 was identified as stemphyperyleneol. The natural product 12 is a new compound belonging to the class of the stemphytoxines respectively altertoxines.

Four naphtalene derivates were extracted from fungus-strain 3004.

The isolation of the metabolites 17, 18 und 19 succeeded from fungus-strain 3304. The natural products 17 and 18 were elucidated as Strobilurine B and G. Compound 19 is an unknown benzamide, which is substituted with a farnesyl residue. It shows a very high activity against *Bacillus megaterium*.

Substance 20 was identified as a new C3-symmetric 24-membered macrolactone. In the synthetic part of the work the first steps of the synthesis of stemphyperyleneol (11) were described.