

Antifungal Activity of Biflavones from *Taxus baccata* and *Ginkgo biloba*

Mirosława Krauze-Baranowska^{a*} and Marian Wiwart^b

^a Department of Pharmacognosy, Medical University of Gdańsk, Gen. J. Hallera 107 str., 80-416 Gdańsk, Poland. Fax: +485 83 49 32 06. E-mail: krauze@farmacja.amg.gda.pl

^b Department of Plant Breeding and Seed Production, University of Warmia and Mazury, Łódzki Sq. 3, 10–724 Olsztyn, Poland

* Author for correspondence and reprint requests

Z. Naturforsch. **58c**, 65–69 (2003); received May 28/August 15, 2002

Bilobetin and 4'''-O-methylamentoflavone were isolated and identified in the needles of *Taxus baccata*, for the first time in this species. The antifungal activity of biflavones from *T. baccata* and *Ginkgo biloba*, namely amentoflavone, 7-O-methylamentoflavone, bilobetin, ginkgetin, sciadopitysin and 2,3-dihydrosciadopitysin towards the fungi *Alternaria alternata*, *Fusarium culmorum*, *Cladosporium oxysporum* was determined employing computer-aided image analysis coupled to a microscope. Bilobetin exhibited a significant antifungal activity with values of ED₅₀ 14, 11 and 17 µM respectively. This compound completely inhibited the growth of germinating tubes of *Cladosporium oxysporum* and *Fusarium culmorum* at a concentration 100 µM. Activity of ginkgetin and 7-O-methylamentoflavone towards *Alternaria alternata* was stronger than that of bilobetin. Moreover, slight structural changes in the cell wall of *Alternaria alternata* exposed to ginkgetin at concentration of 200 µM were observed.

Key words: Biflavones, Isolation, Antifungal Activity