

CHADAPORN KURDPUNYA : CHEMICAL CONSTITUENTS AND BIOLOGICAL  
ACTIVITIES OF Sphenoclea zeylanica Gaertn.

THESIS ADVISOR : ASSO. PROF. UDOM KOKPOL, Ph.D., 176 pp.,  
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The preliminary bioassay results of Sphenoclea zeylanica Gaertn. ( paddy-field weed ) indicated that the ethanol crude extract showed inhibition of rice growth and antifungi. Two fractions were separated from crude extract ethanol were chloroform and water-ethanol fractions. The chloroform extract was separated into 9 fractions (SZ<sub>1</sub>-SZ<sub>9</sub>) by quick column chromatography. The SZ<sub>7</sub> showed high rice growth inhibition and high fish piscicidal activities. The 6 fractions (S<sub>1</sub>-S<sub>6</sub>) were the results of recolumn chromatography of the fraction SZ<sub>7</sub>. The high purity fraction (S<sub>4</sub>) was separated by preparative HPLC into 3 fractions (S<sub>4.1</sub>-S<sub>4.3</sub>). The S<sub>4.1</sub> fraction showed high bioactivity as a rice growth inhibitor. It inhibited both leaf and root lengths by 4.85% and 77.95% respectively, by comparing with the control at dose 0.0005 gram. Seven compounds were analyzed by their means of physical properties, chemical reactions and spectroscopic evidences to be 1) a mixture of long chain hydrocarbons (C<sub>27</sub>-C<sub>33</sub>), 2) a mixture of long chain carboxylic acids (C<sub>29</sub>-C<sub>33</sub>), 3) a mixture of long chain alcohol (C<sub>27</sub>-C<sub>32</sub>), 4) a mixture of steroids (campesterol, stigmasterol and  $\beta$ -sitosterol), 5) a mixture of steroids glycoside (stigmasteryl-O- $\beta$ -D-glucopyranoside and  $\beta$ -sitosteryl-O- $\beta$ -D-glucopyranoside), 6) Betulinic acid and 7) an unidentified triterpenoid glycoside.