

Isoflavanones from the allelopathic root exudate of *Desmodium uncinatum*

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Abstract

Three isoflavanones, 5,7,2',4'-tetrahydroxy-6-(3-methylbut-2-enyl)isoflavanone (**1**), 4'',5''-dihydro-5,2',4'-trihydroxy-5''-isopropenylfuran-(2'',3'';7,6)-isoflavanone (**2**) and 4'',5''-dihydro-2'-methoxy-5,4'-dihydroxy-5''-isopropenylfuran-(2'',3'';7,6)-isoflavanone (**3**) and a previously known isoflavone 5,7,4'-trihydroxyisoflavone [genistein (**4**)] were isolated and characterised spectroscopically from the root exudate of the legume *Desmodium uncinatum* (Jacq.) DC. We propose the names uncinanone A, B, and C for compounds **1**, **2** and **3**, respectively. Isolated fractions containing uncinanone B (**2**) induced germination of seeds from the parasitic weed *Striga hermonthica* (Del.) Benth. and fractions containing uncinanone C (**3**) moderately inhibited radical growth, the first example of a newly identified potential allelopathic mechanism to prevent *S. hermonthica* parasitism.

Three isoflavanones, including the two shown were isolated and characterised spectroscopically from the root exudate of the legume *Desmodium uncinatum* (Jacq.) DC. Isolated fractions containing isoflavanone (R=H) induced germination of seeds from the parasitic weed *Striga hermonthica* (Del.) Benth and fractions containing the isoflavanone (R=Me) moderately inhibited radical growth, the first example of a newly identified potential allelopathic mechanism to prevent *S. hermonthica* parasitism.

