

# Glutathione S-Transferase, Acetylcholinesterase Inhibitory and Antibacterial Activities of Chemical Constituents of *Barleria prionitis*

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Phytochemical studies on the ethanolic extract of *Barleria prionitis* of Sri Lankan origin have resulted in the isolation of a new compound, balarenone (**1**), along with three known compounds, pipataline (**2**), lupeol (**3**) and 13,14-*seco*-stigmasta-5,14-diene-3- $\alpha$ -ol (**4**). The structures of **1–4** were elucidated with the aid of extensive NMR spectroscopic studies. Compounds **1–4** showed moderate inhibitory activity against glutathione S-transferase (GST) and acetylcholinesterase (AChE). Compounds **1**, **2** and **4** also exhibited antibacterial activity against *Bacillus cereus* and *Pseudomonas aeruginosa* (25  $\mu$ g/disk). Three different derivatives of compound (**2**), 7,8-epoxypipataline (**5**), 8-amino-7-hydroxypipataline (**6**) and 7,8-dibromopipataline (**7**) were synthesized to evaluate them for GST and AChE inhibitory activities. Household microwave radiations were used to synthesize compound (**6**). Among all tested compounds, 8-amino-7-hydroxypipataline (**6**) exhibited a significant AChE inhibitory activity with an IC<sub>50</sub> value of 36.8  $\mu$ M.

*Key words:* *Barleria prionitis*, Balarenone, Pipataline, Lupeol, 13,14-*seco*-Stigmasta-5,14-diene-3- $\alpha$ -ol, Glutathione S-Transferases, Acetylcholinesterase