

FILICINAE  
GYMNOGRAMMACEAE  
FLAVONOLS FROM THE FRONDS OF *PITYROGRAMMA CHRYSOCONICA*

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*Plant.* *Pityrogramma chrysoconica* (Desv.) Maxon ex Domin, 1928 *Occurrence* South America. *Previous work.* Dihydrochalcones from *P. chrysophylla*, var. *marginata*,<sup>1</sup> chalcones from *P. chrysophylla* var. *heyderi*,<sup>2</sup> flavonols from *Cheilanthes farinosa*<sup>3,4</sup>

*Farina.* Dried fronds were rinsed with cold acetone. The solution was evaporated, the residue chromatographed on polyamide (benzene/increasing quantities of MeCOEt and MeOH)

*Flavonols* Galangin (3,5,7-trihydroxyflavone)-C<sub>15</sub>H<sub>10</sub>O<sub>5</sub>, M<sup>+</sup>, *m/e* 270, significant peaks at *m/e* 241, 213, 197, 179, 168, 153, 139, 121, 105. Orange-yellow spot on polyamide-layer in UV light, fluorescent after spraying with ZrOCl<sub>2</sub>, UV max at 268, 360 (EtOH); 275, 416 (AlCl<sub>3</sub>), identical to authentic specimen.

Izalpinin (3,5-dihydroxy-7-methoxyflavone)-C<sub>16</sub>H<sub>12</sub>O<sub>6</sub>, M<sup>+</sup>, *m/e* 284, significant peaks at 255, 241, 213, 197, 167, 151, 143, 123, 105. Yellow spot on polyamide-layer in UV light, fluorescent after spraying with ZrOCl<sub>2</sub>, UV max at 268, 359 (EtOH), 277, 414 (AlCl<sub>3</sub>). Identical to authentic specimen

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*Key Word Index*—*Pityrogramma chrysoconica*, Filicinae, flavones, galangin, izalpinin

GYMNOSPERMAE  
PINACEAE  
ANTICOPALIC ACID IN *PINUS STROBUS* AND *P. MONTICOLA*

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