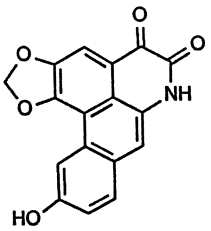
In addition to the aristolochic acid derivatives two 4,5-dioxoaporphine alkaloids, referred to as tuberosinone (*21-28*) and its *N*-β-D-glucoside, were isolated and their structures determined [36, 37].



Tuberosinone (*21-28*)

21.2.5.4 *Aristolochia tagala*

Six chemical constituents were isolated from the roots of *A. tagala*, four of them were identified as aristolochic acid A, aristolochic acid C, 9-hydroxyaristolochic acid I, and allantoin [38].

21.2.5.5 *Aristolochia championii*

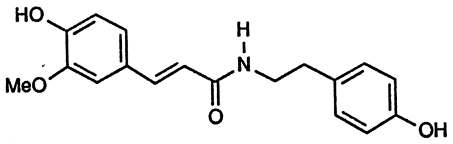
From the root of *A. championii* five chemical constituents were obtained and identified as aristolochic acid A, aristolinic acid methyl ester, aristolochic acid IV methyl ester, allantoin, and β-sitosterol [39, 40].

21.2.5.6 *Aristolochia heterophylla*

From the roots of *A. heterophylla* aristolochic acid A, aristolochic acid D, magnoflorine, allantoin, and β-sitosterol were isolated and identified [41, 42].

21.2.5.7 *Aristolochia moupinensis*

Tian et al. reported the isolation of aristolochic acid A, magnoflorine, allantoin, and β-sitosterol from the roots of *A. moupinensis* [42]. Xu and Sun reported the isolation of 13 constituents of the roots and stems. In addition to the four constituents reported by Tian, syringic acid, *p*-coumaric acid, aristolochic acid IV and its methyl ester, aristolochic acid D, palmitic acid, aristolochic acid II, *N*-(*p*-hydroxyphenethyl)-*p*-coumaramide, and moupinamide (*21-29*), have been isolated. The structure of moupinamide was confirmed from spectral data and chemical synthesis [21, 43]. Contents of aristolochic acids and magnoflorine in *A. moupinensis* were 0.05% and 1.1%, respectively, similar to those in *A. fangchi* [21].



Moupinamide (*21-29*)