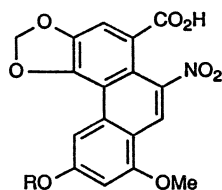


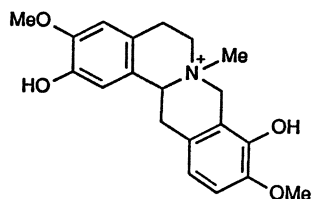
Aristolochic acid II  
(21-8)



Aristolochic acid IV (21-9): R = CH<sub>3</sub>  
Aristolochic acid IVa (21-10): R = H

### 21.2.1.2 Alkaloidal Constituents

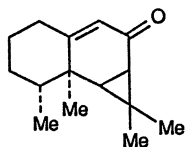
Magnoflorine (21-3), a quaternary ammonium base with hypotensive activity [9, 10], and cyclanoline (21-11) [11] were isolated from the roots of *A. debilis*. Another alkaloid, tetrandrine [12], and allantoin were also found in the roots of *A. debilis* [4].



Cyclanoline (21-11)

### 21.2.1.3 Sesquiterpenes

Among the sesquiterpenes aristolone (21-12) was isolated from *A. debilis* and structurally elucidated [13, 14]. From 3 kg of dried *A. debilis* roots 12.5 g of aristolone was obtained.



Aristolone (21-12)

The isolation of 9-aristolene (21-13), 1(10)-aristolene (21-14) and debilone (21-15) was also reported [15]. The fresh root of *A. debilis* contained a saturated sesquiterpene, 3-oxoishwarane (21-16), in addition to aristolone and its isomer 1(10)-aristolene-9-one (21-17) [16]. The latter was first isolated from the root of *Nardostachys chinensis* (Valerianaceae), used in folk medicine as a sedative [17]. 9-Aristolene, 1(10)-aristolene, and their related compounds all possess a 1H-cyclopropa[a]naphthalene skeleton.