Alkaloids from *Xylopia parvifolia* and *Xylopia nigricans* (Annonaceae)

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The family Annonaceae is important phychemically because of the frequent presence of isoquinoline alkaloids and, more recently on the basis of the restrictive occurrence of a very active class of natural products, the acetogenins. It comprises 130 genera and some 2300 species. Plants of the genus *Xylopia* have yielded products of different classes such as alkaloids, acetogenins, amides, flavonoids, lignoids, and terpenoids. Members of the family Annonaceae are known to have a variety of alkaloids some of which are reported to have interesting biological properties. Many plants that are known for their toxicity possess useful cytotoxic compounds. Most of the Sri Lankan endemic species of the family Annonaceae have not previously been analysed for their chemical constituents and biological properties.

*X. parvifolia* (found in Sri Lanka and Southern Deccan peninsula) was collected from Menikthena forest, Central Sri Lanka, in January 2006 and *X. nigricans* (endemic) from Royal Botanic Gardens, Peradeniya in April 2005. Voucher specimens have been deposited in the Department of Chemistry, University of Peradeniya, Peradeniya.

Air-dried stem bark of *X. parvifolia* (2 kg) was ground into a powder and sequentially extracted into dichloromethane (CH\(_2\)Cl\(_2\)) and methanol (MeOH) (5 L each) at room temperature. The CH\(_2\)Cl\(_2\) extract (40 g) was dissolved in CHCl\(_3\) and was partitioned with 2N HCl. The aqueous layer was basified with 20% NH\(_4\)OH and partitioned again with CHCl\(_3\). The crude alkaloid mixture (3 g) obtained on chromatography yielded oxopurpureine (Figure 1a, 24 mg) as dark orange needles (CH\(_2\)Cl\(_2\))\(^1\), O-methylmoschatoline (Figure 1b, 15 mg) as orange needles (CH\(_2\)Cl\(_2\))\(^5\) and (+)-laudanidine (Figure 1c, 10 mg) as brown colour powder; the crude alkaloid mixture (4 g) obtained from an acid wash of the MeOH extract (50 g) yielded, (+)-discretine (Figure 1d, 60 mg) as sticky solid, nordicentrine (Figure 1e, 45 mg) as sticky solid and dehydrocorytenchine (Figure 1f, 90 mg) as green crystals.

Six alkaloids were isolated from CH\(_2\)Cl\(_2\) and MeOH extracts of the stem bark of *X. parvifolia*. Three alkaloids were isolated from the CH\(_2\)Cl\(_2\) and MeOH extracts of the root bark of *X. nigricans*. The alkaloids a-f (Figure 1) have previously been isolated from *X. championii* and their antifungal and antioxidant activities reported. (+)-S-reticulin exhibited 67.8% antioxidant activity compared to the standard DL-′-Tocopherol (55.8%) in the 2,2-Diphenyl-1-picrylhydrazyl (DPPH) radical scavenging assay.
Spectral data [1H, 13C nuclear magnetic resonance (NMR) and mass] and physical data (m.p., Co-TLC, optical rotation) of reported or isolated compounds were used in the identification of the alkaloids a-i 1,6-13

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References
