Chemical constituents of *Xylopia excellens* (ANNONACEAE).

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Abstract

In the present study we report the isolation of two new ent-kaurene diterpene glycosides (1-2) and eleven isoquinoline alkaloids and their derivatives, from *Xylopia excellens* (Annonaceae): one benzyltetrahydroisoquinoline (3), two aporphines (4-5), eight oxoaporphines (6-13) .

Introduction

Xylopia excellens (Annonaceae) is an amazon plant commonly known as "envireira". Previous phytochemical and pharmacological investigation on *Xylopia* species revealed the presence of several bioactive compounds[1,2]. Phytochemical study of the leaves and stems of *Xylopia excellens* afforded two new ent-kaurene diterpene glycosides named ent-kaur-16-en-7β-D-glucose (**1**) and ent-kaur-16-en-7β-D-galactose (**2**) and eleven alkaloids were isolated, and characterized as reticuline(**3**) (benzyltetrahydroisoquinoline), anonaine (**4**) and nornantenine (**5**) (aporphines), liriodenine (**6**), lysicamine (**7**), isomochastoline (**8**), oxoglaucine (**9**), O-methylmoschatoline (**10**), lanuginosine (**11**), oxonatenine (**12**) and oxophoebine (**13**) (oxoaporphines). All structures were identified through 1D and 2D NMR techniques along with mass spectrometry and by comparison with literature.

Resultados e Discussão

The powdered air-dried leaves and stems of *X. excellens* was extracted successively with hexane and MeOH. The hexane extract (5 g) was partitioned with hexane/10% aqueous metanol (1:1), yielding the hydroalcoholic fraction (1.7g). This fraction was supported over silica gel and eluted initially with n-hexane, followed by a gradient of EtOAc and methanol, yielding **1** and **2**. The MeOH extract of the leaves and stems were redissolved in $CHCl_3$ and subjected to extraction with 3% aqueous HCl. This aqueous solution was adjusted with $NH_4OH_{conc.}$ to pH 10, and extracted with $CHCl_3$ to yield $CHCl_3$ alkaloid fraction [3]. The alkaloidal fraction of the leaves (100 mg) was subjected to purification by HPLC-DAD in semi-preparative scale, using a C18 semi-preparative column eluted with methanol / water with 5% (v / v) trifluoroacetic acid in the proportion of 80:20, flow 5 mL / min and detection at UV_1=280nm and UV_2 = 305 nm affording three alkaloids (**3,4** and **9**). The alkaloidal fraction of the stems (100 mg) was subjected to purification by HPLC-DAD in semi-preparative scale, the conditions were the same described previously, yielding six fractions. These subfractions were subjected to a new purification by HPLC-DAD, using a phenyl-hexyl semiprep column eluting with methanol/water with 5% (v/v) trifluoroacetic acid in the proportion of 60:40 flow of 5 ml/min and the wavelengths used were the same as described, yielding (**5**, **6**, **7**, **8**, **10**, **11**, **12** and **13**). Compounds **1**-**2** were reported for the first time in the literature. Compounds **3**-**13** were reported for the first time in this species. These class of compounds are very common in species of the genus *Xylopia*.[4]

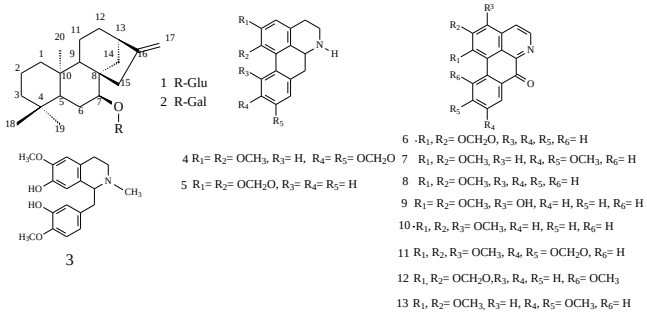

Figura 1. Isolated chemical constituents of *Xylopia excellens*

Conclusões

This is the first report of the chemical composition of *Xylopia excellens.* The results of this study contribute to the chemotaxonomic knowledge of the family and stimulate the continuation of investigations of this species for the identification of bioactive compounds.

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