

## ABSTRACT

### Hypoglycaemic Effect of Extracts from *Piper tuberculatum* (Candle Bush)

Coleen Cassandra Paynter

The plant *Piper tuberculatum*, locally known as Candle Bush, was screened for hypoglycaemic activity since the aqueous extracts of the leaves have been acclaimed as a folkloric treatment for diabetes. The crude chloroform fraction obtained by partitioning a methanol extract of the leaves was found to contain the active component(s).

The chloroform fraction was subjected to column chromatography and the fractions collected were further analyzed by thin layer chromatography (TLC). The fractions were pooled according to the components present, resulting in five major fractions.

Each major fraction was then tested for hypoglycaemic activity on streptozotocin-diabetic rats in

an attempt to identify the active component(s) responsible for this hypoglycaemic effect.

<sup>1</sup>HNMR spectroscopy and chromatographic behaviour identified the active hypoglycaemic component as piplartine, or a closely related amide alkaloid, when compared to an authentic sample of purified piplartine. The pharmacological properties of piplartine were then tested and found to be similar to that of the active component found in *Piper tuberculatum*.

Treatment of diabetes in rats using the fraction containing the hypoglycaemic agent (fraction B) produced an increase in the activity of the enzyme phospholipase C and induced insulin secretion. The fraction B was found to act as a hypoglycaemic agent only in mildly diabetic rats.

Finally, I thank God for making all this possible.

C.C. Paynter