A141   Alkaloids with choline-esterase inhibitory effects from *Crinum glaucum*

A. Adegbulugbe and P.J. Houghton
Department of Pharmacy, King's College London, Franklin-Wilkins Building, 150 Stamford Street, London SE1 9NN, UK.

Methanolic extracts of ten plant species used in Nigerian traditional medicine for improvement of memory and to ameliorate other symptoms of old age were screened using the modified Ellman method for choline esterase inhibition (1). The extract of the fresh bulb of *Crinum glaucum* (Amaryllidaceae) gave the greatest activity and was examined the in situ TLC detection method for acetylcholine esterase inhibition (2). Zones showing inhibition were positive to Dragendorff's reagent spray and were isolated by preparative TLC (Silica gel/chloroform:methanol 6:1). Three alkaloids were isolated but the inhibitory activity against choline esterase could be recorded for only two of them **1**, **2** (see Table). Spectroscopic examination using MS and NMR showed that the alkaloids were related to buphanisine. The low activities of individual alkaloids compared with the extract suggested a synergistic effect.

Table. Inhibition of acetylcholine esterase by compounds:

Compound	% inhibition at 65 µg/ml
1	23
2	18
C. glaucum extract	18

Buphanisine
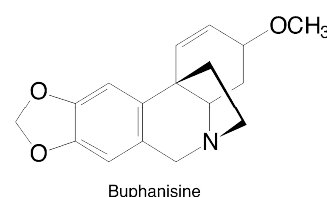
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A142   Olibanum increases learning via social interactions

B. Shafaghi , M.J. Khodayar , M. Feizi and A. Tajbakhsh
Pharmacology and Toxicology Department, Shaheed Beheshti School of Pharmacy, P.O. Box: 14155-6153 Tehran, Iran.

Olibanum is an oleo-gum-resin produced by *Boswellia carterii* Birdw. There are some therapeutic uses for olibanum in Persian traditional medicine to improve memory. The aim of this study was to assess the role of this resin in learning functions. Olibanum was prepared as suspension in normal saline and was force fed in doses of 35, 47, 63.3, 84.4, 112.5 and 150 mg/kg to male albino mice. In order to measure learning, a one trial step down passive avoidance learning model was used. Mice were divided into three groups of no shock, weak shock and strong shock. Time latency to step down from the platform (the insulated area) to wire floor (with the potential electric shock) was recorded as the index of learning with a cut-off of 300 seconds. The results of day 1 indicates that there is no significant difference among the groups which clearly shows that olibanum has no significant locomotor retardation effect. There was a significant shock effect in day 2 meaning that mice who had been shocked have learned the task better. There was a significant olibanum by shock effect which means olibanum has effect on learning but post hoc analysis showed that there is a non-specific increases in learning in the 63.3, 84.4 and 150 mg/kg unshocked group, i.e. mice which had not been shocked had learned the task. The experiment was repeated with a modification to isolate unshocked, weakly shocked and strongly shocked groups from each other, so after the training session each group was housed in a different box to eliminate social interactions of mice. In the second experiment no significant olibanum by shock interaction was seen. It is concluded that although, olibanum has no direct significant effect on acquisition phase of learning but it can reproduce a learned task in unlearned animals when they are grouped together.