

## Letter to the Editor

### IS ASARONE A TRANQUILLISER

Dandiya and co-workers in (1) have reported that asarone is not responsible for enhancing the barbiturate induced hypnosis exhibited by acorous oil because, although, asarone is present to an extent of 80% in Indian oil and 7% in European oil, there is no appreciable difference in the sedative properties of these oils. In 1961, Sharma, *et al* (8) have again reported that "B-asarone appears to be more potent than asarone". However in 1963 Dandiya and Menon(3) found that asarone was more potent than B-asarone. Another surprising as well as irreconcilable part of their findings is that synthetic asarone is devoid of any CNS activity while isolated one shows pronounced effects (2). In 1965 Dandiya and Menon (5) further showed that asarone inhibited tremorine induced tremors. Thus it would be the first tranquilliser to have been reported which instead of producing Parkinsons' disease offer protection to the extrapyramidal tract.

These contradictory as well as fascinating findings of Dandiya *et al* attracted author's interest towards asarone. Asarone was therefore isolated from *Acorus Calamus Linn* by slight modification of the method reported earlier (7). Its structure was confirmed by mixed m.p. determination, microanalysis, super-imposable I.R. spectra and by preparation of its picrate. A solution of the drug was prepared as described by Dandiya and Menon (3).

Its effect on Spontaneous Motor Activity (SMA) of mice was studied by the procedure reported by Dandiya and Menon(4). The animals, treated even with a dose as high as 15 mg/kg. of asarone, exhibited normal SMA, were responsive to tactile and auditory stimuli, a finding which is in sharp contrast to their observations (4). A dose of 3 mg/kg and 10 mg/kg of asarone did not increase the pentobarbitone induced hypnosis. An increase of only 46.9% sleeping time was recorded with 15 mg/kg. In contrast to the findings of Menon and Dandiya(6) asarone even upto 15 mg/kg. dose did not exhibit any significant hypothermia in mice. The average fall of rectal temperature of a group of 10 mice, after 2 hours of its administration, was only 0.91° C. Unlike the reports of Dandiya and Menon(3), doses even upto 15 mg/kg of asarone could neither prevent fighting behaviour in paired mice subjected to mild foot shock, nor could it block the Conditioned Avoidance Response (CAR) in trained rats (only 2 out of 10 rats).

Thus from the present work it is evident that asarone is devoid of any tranquillising property. Menon and Dandiya (6) have even gone to the extent of establishing the mechanism of tranquillising activity of asarone which seems to be a futile exercise in science particularly when the drug does not possess any antipsychotic activity.

The author gratefully acknowledges the financial assistance received from ICMR as Asstt. Research Officer under the Scheme "Pharmacological Evaluation of *Acorus Calamus*, its Synthetic Derivatives and the Effect of some Tranquillisers on stress.

S.P. BANNERJEE,  
Department of Pharmacology,  
University of Toronto,  
Toronto-5, Canada.

#### REFERENCES

1. Dandiya, P.C., R.M. Baxter, G.C. Walker and H. Cullumbine. Studies on *Acorus Calamus*, Part II, Investigation of Volatile Oil. *J. Pharma. Pharmac.* **11**:163, 1959.
2. Dandiya, P.C., P.K. Sharma and M.K. Menon. Structure activity relationship of some locally synthesised trimethoxy benzene derivatives. *Ind. Jour. Med. Res.* **50**:750, 1962.
3. Dandiya, P.C. and M.K. Menon. Effects of asarone and B-asarone on Conditioned Response, Fighting Behaviour and Convulsions. *Brit. J. Pharmac.* **20**:436, 1963.
4. Dandiya, P.C. and M.K. Menon. Action of Asarone on behaviour, stress and hyperpyrexia and its interaction with central stimulants. *Pharmac. Exp. Ther.* **145**:42, 1964.
5. Dandiya P.C. and M.K. Menon. Internaction of asarone with mescaline, tremorine and amphetamine. *Life Sci.* **4**:1635, 1965.
6. Menon M.K. and P.C. Dandiya. The mechanism of the tranquillising action of asarone from *Acorus Calamus* Linn. *J. Pharm. Pharmac.* **19**:170, 1967.
7. Rao, B.S. and Subramaniam. B-asarone. *J. Chem. Soc.*; 1338, 1937.
8. Sharma, J.D., P.C. Dandiya, R.M. Baxter and S.I. Kandel. Pharmacodynamical effects of asarone and B-asarone. *Nature* **192**:1299, 1961.