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In Search of Novel Hypoglycaemic Agents from Plants

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Over forty different plants in Sri Lanka are reputed to possess strong hypoglycaemic activity. Except in about three such plants no scientifically controlled investigations have been carried out to confirm or disprove the validity of these claims. A programme of research has therefore been initiated in our laboratory to carry out biochemical and pharmacological studies with these plants to find out if they truly possess hypoglycaemic activity with a long term view of isolating the active components.

Initial studies with Osbeckia octandra leaves (family Melastomaceae) using Sprague Dawley rats as experimental animals has shown that this plant extract can significantly lower the fasting blood glucose level and markedly improve the glucose tolerance. Biological testing of fractions separated from a methanolic extract showed that only the ethylacetate fraction and the aqueous extract remaining after solvent extraction had any activity.

Biological testing after chemical screening and separation by TLC of these fractions has shown that a mixture of two flavanoids and flavanoid derivative are responsible for the hypoglycaemic activity of this plant. The structural identity of these compounds is still to be determined.