

## E1-18: Use of fractal methods to graphically generate Sri Lankan plants

N D Kodikara<sup>1</sup>, D K Padmalatha<sup>2</sup>, S Sumanasekera  
(<sup>1</sup>Dept of Statistics & Computer Science, Univ of Colombo,  
Colombo 3, <sup>2</sup>Dept of Mathematics, Univ of Peradeniya)

Even though the traditional Euclidean geometry can be used to explain man made objects, natural objects such as trees, plants, mountains and clouds are difficult to explain using Euclidean geometry. It has been claimed that Fractal geometry which is based on recursive algorithms and functions can be used to explain these natural figures. Fractal objects usually exhibit the property of self-similarity, a property possessed by most natural objects such as plants. In this study, experiments were conducted to graphically generate several Sri Lankan plants using Fractal methods. These graphical simulations will be very useful for researchers in botany and also for teaching purposes.

The branching properties of these plants such as inflorescence and variation were studied and recursive algorithms were developed. Computer programs were developed to implement these algorithms and results were displayed graphically on the computer screen. Some of the plants which were created graphically were Kalanduru (*Cyperus*), Ratu Pinna (*Clerodendron*), Saman Pichcha (*Jasminum*), Monara Kudumbiya (*Veronia*) and Mai Mara (*Caesalpaenia pulcarima*).

This project was done on a SUN Microsystem using PHIGS graphics package.