E2-14: Electrophoretic separation of peroxidases from some plants of *Rubiaceae*

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Plant leaves of the Rubiaceae family are widely used in indigeneous medicine in Sri Lanka. The leaves are known to contain the peroxidase enzyme which exists in various forms and different quantities in the different species of the family. These different forms of the enzyme can be separated using paper electrophoresis. The utilization of paper electrophoresis to separate the different forms of peroxidase present in extracts of plant leaves of *Pavetta indica, Ixora coccinea, and Tarenna asiatica belonging* to the *Rubiaceae family* is reported.

Chopped leaves of the plant (10 g) were frozen for 24 h and then ground in 10 cm^3 of a buffer solution of appropriate pH. Two buffer systems of pH 4.0 and 8.0 respectively were used in this study. The aqueous extract was subsequently separated from the residue by repeated centrifugation followed by decanting. The presence of peroxidase in this extract was confirmed by the benzidine test and the guacine resin test. The extract was negative to ninhydrin test indicating that the proteins were not hydrolysed during the extraction procedure.

The extracts were subjected to paper electrophoresis using a standard electrophoretic set-up. After electrophoresis, the paper was developed using naphthalein black. The spots due to peroxidase forms were confirmed by the benzidine test and the guacine resin test. The mobilities of the different forms of peroxidases separated were estimated.

Results showed that *Pavetta indica, Ixora coccinea,* and *Tarenna asiatica* contained a minimum of 3, 2 and 2 forms of peroxidases, respectively, which can be readily separated by paper electrophoresis.