D-03: Ecological study of riverine ferns of Hantana

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A field study was carried out along the stream bank of Ma Oya, Hantana to document the distribution of ferns in relation to relative human impact. Four different sites were sampled using 100 circular plots (23 cm) at 2 m intervals along the stream bank of each site. Species of ferns were recorded in 4 different sites. Site 1,2, 3 & 4 were located in decreasing order of human impact; pollution, physical damage to vegetation/soil.

Results showed the presence of 34 species of ferns belonging to 26 genera and 12 families in 400 sample plots. *Adiantum intermedium* (Adiantaceae) *Pteris ensiformis* Burm. (Adiantaceae) and *Blechnum orientala* L. (Blechnaceae) were widely distributed, occurring in 3 - 4 sites. *Diplazium esculentum* (Retz.) Sw. (Dryopteridaceae), *Cyathea gigantea* (Wall. ex Hook.) Holttum (Cyatheaceae) *Arachniodes amabilis* (Blume) Tindale (Dryopteridaceae) and *Arachniodes aristata* (G. Forster) Tindale (Dryopteridaceae) were restricted to the least disturbed site. Dominant ferns, in relation to frequency of occurrence at each site, were:
site 1 = *Adiantum intermedium* (Adiantaceae)
Site 2 = *Nephrolepis auriculata* (L.) Trimen (Davalliaceae)
Site 3 = *Adiantum cordatum* L. (Adianteceae) and
Site 4 = *Angiopteris evecta* (G. Forster) Hoffm. (Marattiaceae)

Composition of populations of stream bank ferns was modified by human impact. Recording of a rare fern *Christella subpubescence* (Blume) (Holttum) (Thelipteridaceae) exclusively in least disturbed site was indicative of critical habitat requirements of certain sensitive ferns for their survival.