ABSTRACT
The Singapore Botanic Gardens lies on a 52-hectare tract at Tanglin area. The resources available enabled well-known pteridologist, Holttum R. E., on his study of pteridophytes. The Gardens has a large living collection of pteridophytes but has yet to obtain a complete inventory of pteridophytes on its grounds. This study seeks to document the diversity of pteridophytes in the Gardens to allow better management and appropriate introduction of pteridophytes. Due to time constraint, field surveys have being conducted in the area of fernery and a small tract of the original jungle forest to determine the species composition, proportion and planting intensity of living collection that is native or introduced to the Gardens. A total of fifty-six species in twenty-six genera are documented and identified by consulting various references. A great majority of these species identified are exotic and introduced from neighboring regions or faraway land and planted in the Gardens. It is heartening that certain native pteridophytes such as Cibotium barometz, Asplenium nidus, Angiopteris evecta, Selaginella ciliaris, Lycoposium cernuum, Stenochlana palustris and Cyathea latebrosa and several members of Thelyptheridaceae still survive today within the Gardens. (185 words)

INTRODUCTION
Established in 1859, the landscape of the 52-hectare Singapore Botanic Gardens has remained principally unchanged since the 1860s. Economics of botany was the rule of the day, and it took well-known pteridologist, Richard Eric Holttum (Director, 1925-1949) to introduce as a viable field for research specialization (Tinsley, 1989).

The Gardens grounds are maintained with an emphasis on the correct botanical nomenclature and systematic planting. The inventory of correctly identified plants is essential for the Gardens to keep track of its flora and maintain its relevance as an important institution for the research of tropical flora (Wong et al, 2002). Checklists on Gardens flora are few and grossly incomplete (Turner, 2000).

In view of this, this study seeks to document a comprehensive list of pteridophytes in the Gardens. To ensure an exhaustive list of pteridophytes however, the study focuses on the pteridophytes growing in the fernery and the rainforest at its rear (refer to Figure 1). The fernery, together with the Plant House Annex and the rainforest study site, is located in Zone L (Tay et al, 1989), Tanglin Core, near the entrance off Cluny Road. It is acknowledged the scope of this study is limited due to the time constraint and may not account for some pteridophytes that are growing in the Gardens.
MATERIALS AND METHODS

Field surveys of the study sites were carried out ten times during July to September 2002. Samples of each kind of pteridophyte is collected, and dried at the Herbarium (SINU). The specimens were identified by running the keys available in references, such as Holttum (1968) and Piggot (1996) for the local species, and Hoshizaki et al. (2001) for exotic and ornamental species. Since the species were identified using, amongst other resources, Holttum (1968) for the native species, and Hoshizaki and Moran (2001) for the ornamental species, the nomenclature follow mainly Holttum (1968) for native species and that of Hoshizaki and Moran (2001) for the exotic species. The taxonomic concepts of Holttum (1968) are preferred as his publication ‘Flora of Malaya’ remains the choice reference by fern taxonomists for morphological identification of local pteridophyte diversity (Ruth, 2000). The specimens were not referenced against the specimens in the Gardens Herbarium as the Herbarium was closed for shifting to its new accommodation in the Gardens.

OBSERVATIONS AND RESULTS

Here, an enumeration of 56 species of pteridophytes belonging to 23 genera was documented. The largest and most speciose genera planted in the Fernery of the Gardens are the *Adiantum* (nine species), and the *Selaginella* (eight species), followed by *Asplenium* (four species), *Nephrolepis* (four species), *Pteris* (four species), *Tectaria* (four species), *Cyclosorus* (three species), and *Microsorium* (two species). In the enumeration of pteridophytes, the arrangement of the species under a genus follows alphabetic sequence.
There were six species of pteridophytes sighted but not collected due to lack of fertile fronds. The species were *Lycopodium cernuum*, *Platycerium ridleyi*, *Pyrrosia stigmosa*, *Salvinia molesta*, *Selaginella ciliaris*, and *Stenochlana palustris*.

An overwhelming majority of documented species are exotic and planted. The relatively huge percentage of introduced pteridophytes in the Fernery adds diversity to the ornamental species in the study areas, and forms a good representation of pteridophytes around the city. Planting of native and Asiatic tropical pteridophytes is recommended to provide a balanced representation of pteridophytes in Singapore.

The herbarium specimens have been deposited in the University Herbarium (SINU). A duplicate set will be given to the Gardens for references.

**ENUMERATION OF DOCUMENTED PTERIDOPHTYES**

*Acrostichum aureum* Linnaeus  
*Adiantum diaphanum* Blume  
*Adiantum hispidulum* Swartz  
*Adiantum latifolium* Lamarck  
*Adiantum peruvianum* Klotzsch  
*Adiantum polyphyllum* Willdenow  
*Adiantum pulverulentum* Linnaeus  
*Adiantum raddianum* C. Presl  
*Adiantum tenerum* Swartz  
*Adiantum trapiziforme* Linnaeus  
*Angiopteris evecta* (Forst.) Hoffm.  
*Asplenium nidus* Linnaeus var. *nidus* Linnaeus  
*Asplenium nidus* Linnaeus var. *plicatum* v. A. v. R.  
*Asplenium thunbergii* Kunze  
*Asplenium scolopendrium* Linnaeus cultivar ‘Crispum group’  
*Bolbitis heteroclita* (C. Presl) Ching  
*Cibotium barometz* (Linnaeus) J. Smith  
*Cyathea latebrosa* (Wall.) Copeland  
*Cyclopeltis crenata* (Fee) C. Chr.  
*Cyclosorus extrensus* (Blume) Ching  
*Cyclosorus subpubescens* (Blume) Ching  
*Cyclosorus sumatranus* (v. A. v. R.) Ching  
*Cyrtomium falcatum* (L. f.) Presl  
*Davallia solida* (Forst.) Swartz  
*Edanoya difformis* Copeland  
*Microlepia spelunce* (Linnaeus) Moore  
*Microsorium papuanum* (Baker) Parris  
*Microsorium scolopendria* (N. L. Burman) Copeland cultivar  
*Nephrolepis biserrata* (Swartz) Schott  
*Nephrolepis cordifolia* (Linnaeus) C. Presl cultivar ‘Duffii’  
*Nephrolepis exaltata* (Linnaeus) Schott cultivar ‘Verona’  
*Nephrolepis falcata* (Cav.) C. Chr. Cultivar ‘Furcans’  
*Pityrogramma calomelanos* (Linnaeus) Link
Platycerium coronarium (Koenig) Desv
Pleocnemia conjugata (Blume) Presl
Pleocnemia irregularis C. Presl
Polystichum munitum (Kaulfuss) C. Presl
Pteris ensiformis N. L. Burman
Pteris ensiformis N. L. Burman cultivar ‘Victoriae’
Pteris tripartita Swartz
Pteris vittata Linnaeus
Salvinia natans (Linnaeus) Allioni
Schizoloma ensifolium (Swartz) J. Smith
Selaginella erythropus (C. Martius) Spring
Selaginella mayeri Hieronymus
Selaginella pallescens (C. Presl.) Spring
Selaginella plana Hieronymus
Selaginella serpens (Desvaux ex Poiret) Spring
Selaginella umbrosa Lemaire ex Hieronymus
Selaginella uncinata (Desvaux ex Poiret) Spring
Selaginella willdenovii (Desvaux ex Poiret) Baker
Sphaenostephanos polycarpus (Blume) Copel
Tectaria grandidentata (Cesati) Holtt
Tectaria impressa (Fee) Holtt
Tectaria incisa Cavanilles
Tectaria singaporeana (Wall) Ching
Thelypteris chlamydophora (Rosenst.) Ching

REFERENCES