WIJESUNDERA, D.S.A. (1999)
Proceedings of the First National Workshop on Alien Invasive Species in Sri Lanka
(B. Marambe, ed), Ministry of Forestry and Environment, Sri Lanka: pp 25-27.

ALIEN INVASIVE PLANTS OF SRI LANKA AND THEIR HISTORY OF INTRODUCTION

D.S.A. Wijesundera

Royal Botanic Garden, Peradeniya
Sri Lanka.

SUMMARY

Introduction of plants from one country to the other has taken place from time immemorial. The Botanic Gardens of a country plays an important role in these introductions. Although some plant introductions are of significant benefit to the recipient country, some have ended-up being invasive in both agricultural and natural ecosystems. This paper describes some important plant introductions to Sri Lanka through the Royal Botanic Garden, Peradeniya, which have now become invasive.

INTRODUCTION

All plants that are not native can be called Alien or exotic plants. However, the word "native" is sometimes used as synonymous to "indigenous" to indicate the place of origin. In this sense, Britain would have almost no native flora, majority of the natural flora of United States would have to be classified as immigrant, and the number of flowering plants in Sri Lanka would be a mere 926. On the other hand, for many plant species, even the region of origin is unknown. The general practice in botanical literature is to consider a species native wherever it is believed to have arrived and established itself without human assistance. All other plants that do not fall within this category can be called alien plants.

Alien plant introductions

The plant introduction dates back to commencement of civilization. The major cash crops, choicest fruits, best shade trees, finest flowering trees, chief vegetables and best fodder's of Sri Lanka have all been obtained from overseas. Ironically, even our worst weeds are introductions. It is remarkable that what is perhaps the most venerated tree in the cast, as well as being one

of the oldest historical trees in the world *i.e.* the sacred Bo tree at Anuradhapura in the north central province of Sri Lanka, was also introduced from India about 2300 years ago.

Some introductions have been tremendously beneficial. For example, potato was first introduced from South America to Ireland in 1586 and every country in the world including its original homes has been benefited by this introduction. Similarly, Sri Lanka still enjoys the benefits of rubber, which was introduced to the country in 1876.

The worst weeds in Sri Lanka as in most other countries have been introduced. The Royal Botanic Garden at Peradeniya in the central province has played a major role in many plant introductions. In fact, one of the major purposes of establishing botanic gardens was to introduce plants of economic, ornamental or otherwise interesting kinds but some introductions have become serious pests or invasive plants (Table 1).

Table 1. Some of the plants introduced by the Botanical Garden into Sri Lanka, and have shown invasive behaviour.

Species	Year of Introduction	Family	Country of origin
Antigonnon jeptopus	1870	Polygonaceae	Trop. America
Aristea ecklonii	1889	Iridaceae	Cape of Good Hope
Cestrum aurantiacum	1889	Solanaceae	Guatemala
Clidemia hirta	1894	Melastomataceae	Trop. America
Clusea rosea	1866	Clusiaceae	West Indies
Eichhornia crassipes	1905	Pontederiaceae	Hong Kong
Eupatorium riparium	1905	Asteraceae	Mexico
Lantana aculeate	Ca. 1826	Verbenaceae	Trop. America
Miconia calvescens	1888	Melastomataceae	Mexico
Myroxylon toluiferum	1870	Fabaceae	Venezuela
Prosopis juliflora	1880	Fabaceae	Trop. America
Taraxacum officinale	1882	Asteraceae	Europe
Tithonia diversifolia	1851	Asteraceae	Mexico
Ulex europaeus	1888	Fabaceae	Europe
Wormia burbidgel (Dillenia suffruticosa)	1882	Dilleniaceae	Borneo

One the best examples is *Eichhornia crassipes* (Water hyacinth, Japan Jabara). In the Administrative Report for the year 1905, Dr. J. C. Willis, the then Director of Royal Botanic Gardens, reports the introduction of water hyacinth - then known as *Pontederia crassipes* - as follows;

> "*A large number of plants and packets of seeds have been received during the year from foreign institutions. Among these are Pontederia crassipes or water hyacinth introduced by lady Blake from Hong Kong. This is a pretty ornamental water plant ... but has become a serious pest in the Southern United States, Queensland, Java and elsewhere so that any attempt at its escaping from cultivation must be carefully watched for and checked...*"

By June, 1912 a quantity of water hyacinth was found in a well near Wattegama in the central province, which was collected and destroyed. In 1914 the species was reported in Balachchiyawewa (close to Tangalle in the southern province) and in a nearby tank, and also from Marawila in the north western province. Water hyacinth was reported again from Kandy in the central province in 1916. These plants were destroyed but reappeared. Some plants were also reported from Chilaw in the north western province in the same year. In 1917 it was found in Rambukkana in the Sabaragamuwa province. The spread of water hyacinth was alarming that the Village Headmen were given a demonstration on the eradication of the plant in Polgahawela in the north western province and Weligama in the southern province. Paintings of the plant were posted to various parts of the country to alert the public. By 1930s, 4 ordinances were in action to control this weed, namely (i) Water Hyacinth Ordinance No 4 of 1909, (ii). Plant Protection Ordinance No 10 of 1924, (iii). Village Communities Ordinance no 9 of 1914, and (iv) Irrigation Ordinance No 45 of 1917. It appears that even during the colonial period there were effective control measures to prevent the spread of invasive plants.