

## A REFUGIUM FOR *SCAEVOLA PLUMIERI*, A HIGHLY THREATENED RARE PLANT IN SRI LANKA

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### ABSTRACT

*Scaevola plumieri* ("Hin-takkada"), a surface-creeping shrub among strand vegetation, is extremely rare and "highly threatened" having been previously recorded from no more than six locations in Sri Lanka, mostly during the 19<sup>th</sup> century. The species is presumed to be extinct in its 19<sup>th</sup> century localities on the west and east coasts due to loss of habitat, and in its 20<sup>th</sup> century localities on the east coast due to the recent Tsunami disaster. The Puttalam lagoon shore within the Wilpattu National Park, where this plant was recently located, will therefore be a refugium for this species. Incidentally, this is also the first time that this plant was observed on a lagoon-shore habitat in Sri Lanka, instead of its usual sea shore habitat. This indicates the high conservation value of the Wilpattu beach front of the Kala Oya Lower Basin which also harbours one of the last remaining pristine stretches of mangroves in Sri Lanka, which should be noted by the Department of Wildlife Conservation in park planning and management.

### INTRODUCTION

*Scaevola plumieri* (L.) Vahl belongs to the family Goodeniaceae and its local name is ("Hin-takkada"). It is a surface-creeping (prostrate) shrub with rounded and leathery (coriaceous) leaves not exceeding 8 cm in length, while the fruit (drupe) is red when ripe. These features (and many more) clearly distinguish this species from its closest ally, *Scaevola taccada* (Gaertn.) Roxb., locally known as "Takkada", which is a large erect shrub usually over 1 m high, with rounded but larger leaves (15-21 cm long) which are papery (chartaceous) and clustered (rosettes) at ends of branches. "Takkada" is a widely distributed and very common plant among the coastal vegetation in Sri Lanka.

### Global distribution

This species occurs in the tropical Atlantic strand, extending sparsely into the Indian Ocean. The east coast of Sri Lanka, in as much as it is known, is the eastern limit of its global distribution. (Fosberg, 1997).

### Local distribution

In Sri Lanka, *Scaevola plumieri* is a very rare plant. During 19<sup>th</sup> century, Trimen (1895) cited Trincomalee and Kuchchaveli on the east coast and Chilaw and Colombo on the west coast as localities recorded for this species. The relevant specimens were gathered between 1845 and 1859 (courtesy of the National Herbarium, Peradeniya). Due to subsequent increase of anthropogenic

activities in coastal zones, "Hin-takkada" populations have presumably disappeared from the above localities. The specimens recorded in the 20<sup>th</sup> century were gathered between 1969 – 1974 only from two localities on the lower east coast, namely Panama and Arugam Bay. This made botanists believe that "Hin-takkada" survived only in extremely restricted localities, and furthermore in small populations, in the east coast of Sri Lanka (Figure 1).

Therefore it was a pleasant surprise when a small "Hin-takkada" population was discovered in August 2003 on the Puttalam lagoon beach between Kala Oya and Pomparippu Aru estuaries within Wilpattu National Park (Figure 1). This perhaps reveals the last footholds of this rare species on the west coast of Sri Lanka after nearly 150 years since it was recorded there. This discovery was made during an investigation of the biodiversity in the Kala Oya Basin conducted by the Environment & Management Lanka for the Mahaweli Authority of Sri Lanka (EML, 2005).

A preserved voucher specimen (Jayasuriya, 9641), complete with flowers and fruits, was deposited at the National Herbarium, Peradeniya.

### Ecology

*Scaevola plumieri* occurs among first line vegetation on coastal sand. As observed in Panama and Arugam Bay in the east coast, the plant grows

on low sand dunes. The present find is apparently the first time that the plant was observed on lagoon-shore habitats in Sri Lanka instead of its usual sea-shore habitats, indicating its ability to tolerate lowered salinity levels under brackish conditions.

#### Conservation

The IUCN (2000), after considering many criteria to assess the threat, placed *Scaevola plumieri* in the "Highly Threatened" flora category.

The species is presumably extinct in its 19<sup>th</sup> century localities on the east and west coasts while it is likely that it has also disappeared from its 20<sup>th</sup> century east coast localities such as Panama and Arugam Bay which were severely devastated by the Tsunami disaster on 26<sup>th</sup> December 2004. Even if the species survives this ecological cataclysm, it will presumably take a long time for stable populations to be established on these sites or elsewhere on the east coast.

Fortunately the most recently located site for this species lies within the Wilpattu National Park which will be a **refugium** for this extremely rare and highly threatened plant. Therefore, it is expected that the Department of Wildlife Conservation make a note of this information in park planning and management.

#### ACKNOWLEDGEMENTS

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A refugium for *Scaevola plumieri*

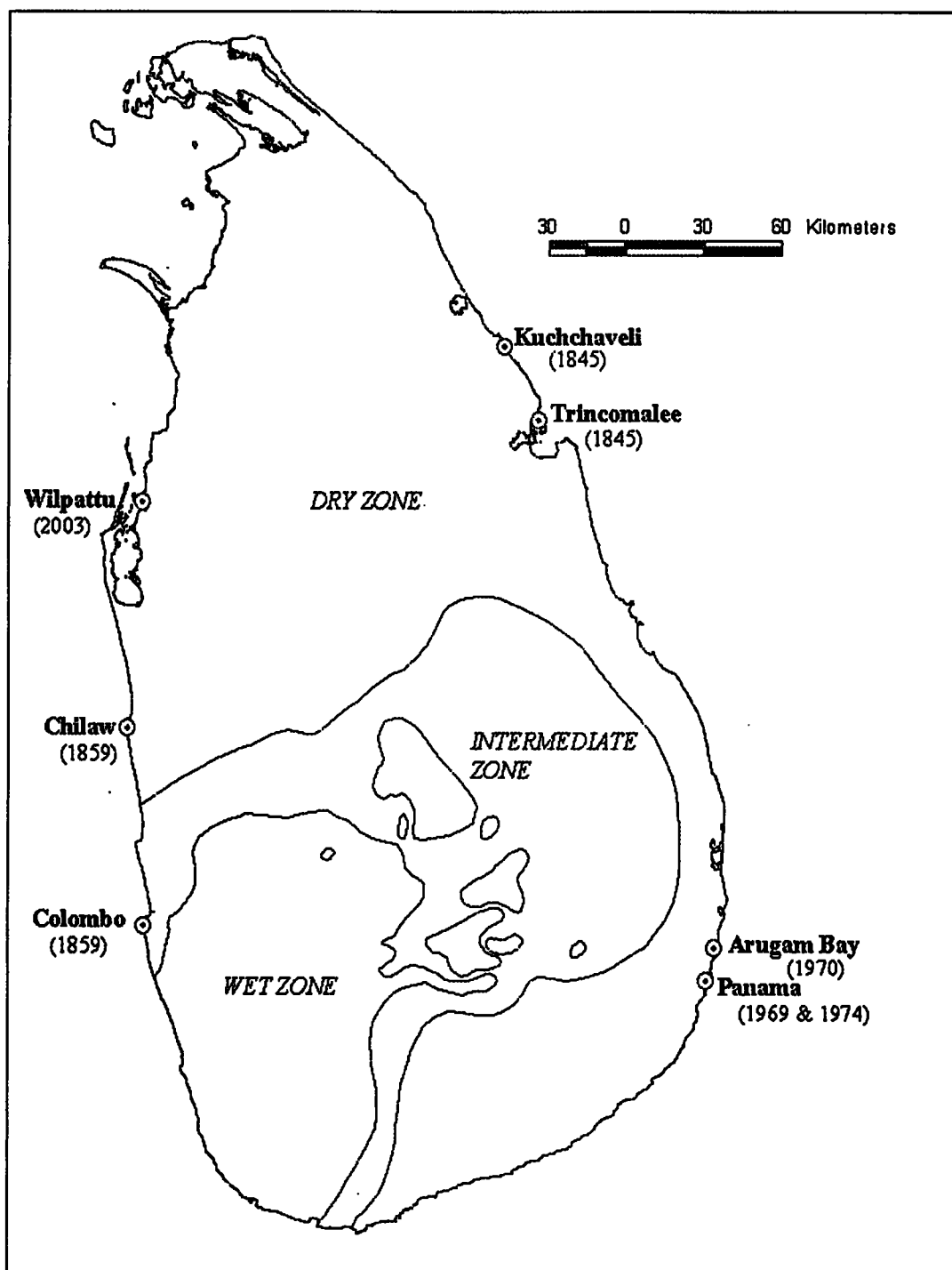


Figure 1. Distribution of *scaevola plumieri*, in Sri Lanka (Year of collection in parenthesis)



Figure 2. *Scaevola plumieri*, a compact shrub forming a surface-creeping colony on sandy shore of puttalam lagoon.



Figure 3. *Scaevola plumieri*, showing shiny succulent leaves, white flowers and red berries.