

# World News of Natural Sciences

An International Scientific Journal

WNOFNS 40 (2022) 86-90

EISSN 2543-5426

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## Rediscovery of Critically Endangered Mangrove *Lumnitzera littorea* (Jack) Voigt (Combretaceae) from Bentota Estuary, Sri Lanka

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### ABSTRACT

*Lumnitzera littorea* is a critically endangered true mangrove species in Sri Lanka. Although this species was observed in several localities in the past, it was only found in Madu Ganga Ramsar site. Even there, the population is considerably low with low regeneration potential. We have recorded a new population of *L. littorea* from Bentota estuary which was believed to be disappeared a long ago. This population is a considerably large and young. Hence, this new population would be the key to the future conservation of this highly threatened species in Sri Lanka. However, it is currently facing numerous threats from people thus proper conservation actions should immediately be taken.

**Keywords:** Bentota estuary, critically endangered, *Lumnitzera littorea*, mangrove, rediscovery

### 1. INTRODUCTION

*Lumnitzera littorea* (Jack) Voigt (E: Red Teruntum, S: Rathamilla) of Family Combretaceae is a critically endangered true mangrove species that is indigenous to Sri Lanka [1, 2]. It has a wide distribution in tropical Asian countries including Northern Australia and Polynesia while in Sri Lanka, it was recorded only from few localities [3-7]. So far its only known population is recorded in Pathamulla area in the Balapitiya estuary which was discovered in 1983 [7]. However, Trimen had recorded *L. littorea* population from Bentota estuary in 1894 [8].

Although, sixty years ago *L. littorea* was observed in Bentota estuary [9], this population was not recently observed and believed destroyed [10]. Therefore, *L. littorea* is considered as a very rare species with a restricted distribution only to the Balapitiya estuary [7, 9]. It was believed that the Pathamulla area of the lower reaches of Madu Ganga wetland was the only known habitat of this species remaining in Sri Lanka [7, 10, 11]. Moreover, this population consists of only a few trees (18) and they are facing many threats due to clearing for developmental purposes [7].

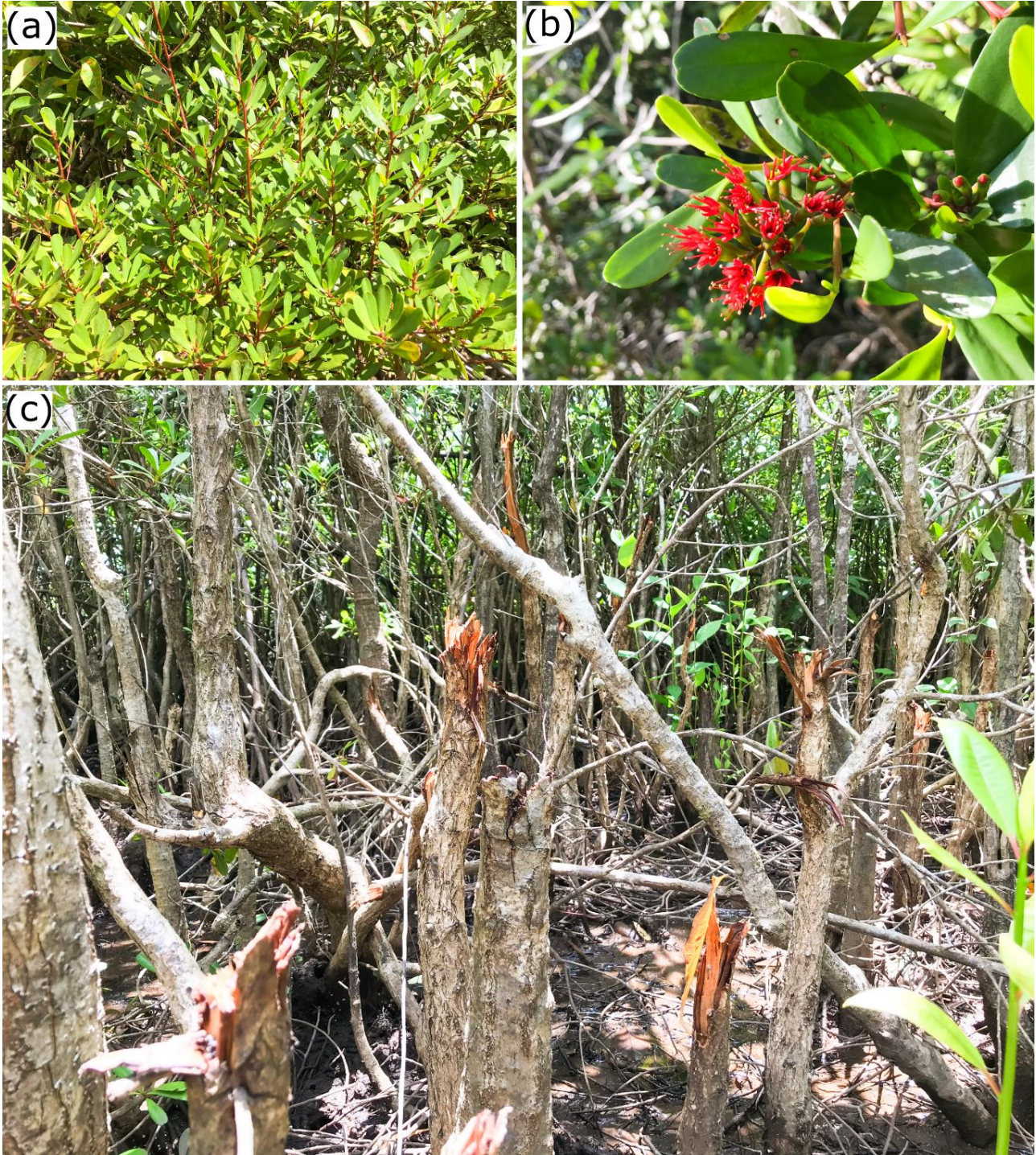
## 2. RESULTS



**Figure 1.** New locality of *Lumnitzera littorea* (Jack) Voigt from the Bentota estuary.

We have recorded a second population and a new locality of *Lumnitzera littorea* which was believed to be extinct from Bentota Estuary up to now. This small patch is located in the Dedduwa area in the Bentota estuary (Figure 1) with close proximity to the Irrigation Road (Galle District of Southwestern Sri Lanka). A considerable number of *L. littorea* trees and saplings can be observed in this site though several trees have already been destroyed (Figure 2). A proper detailed study should be conducted to assess the distribution and abundance of this species within the area. This small population is currently under numerous pressures due to clearing for development and people cut them to assess the inner parts of the estuary and to use

them as poles. As several trees have already been destroyed, it is pragmatic to take immediate actions to conserve this critically endangered species to avoid being extinct in the wild in Sri Lanka.



**Figure 2.** *Lumnitzera littorea* (Jack) Voigt plants from Bentota estuary of its new location; (a): young plant, (b): *L. littorea* with typical red color flowers, (c): destroyed trees.

The genus *Lumnitzera* consists of two species, the other species, *L. racemosa* Willd. (S: Beriya) is also a true mangrove [6, 7]. *L. littorea* is an evergreen tree that grows up to 8-15 m with terminally racemose conspicuous red inflorescences and woody fruits [1] (Figure 2). It is an out-crossing non-viviparous species [6], and its regeneration length is about 40 years [7].

### 3. CONCLUSION

*Lumnitzera littorea* has ecological as well as many socio-economic uses in some countries. The population in Madu River is very small thus only 18 individuals have been recorded from the area [7], in contrast, the population in Bentota estuary is quite large. Moreover, the small population found in Madu Ganga estuary is considered to be an aged population with low regeneration potential thus seed propagation activities are rather difficult to implement [7, 12]. The low abundance of seedlings and the absence of sapling further indicate low regeneration potential [7]. Moreover, mangroves have a small capacity for vegetative propagation thus has to depend on seed propagation [13, 14]. However, the population in Bentota Estuary is a very young population with young individuals that may be the key for seed propagation and the future conservation of this critically endangered species in Sri Lanka. Therefore, it has high conservation importance thus appropriate actions should be immediately taken to conserve it.

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