

RESEARCH ARTICLE

Reassessment of the Genus *Salacia* under IUCN Threatened Categories in Sri Lanka

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Abstract: *Salacia* comprises of five species in Sri Lanka *S. acuminatissima*, *S. chinensis*, *S. diandra*, *S. oblonga* and *S. reticulata* while around two hundred species are distributed in tropical countries worldwide. All five species recorded in Sri Lanka are listed under various threaten categories in the National Red List 2012. The present study was carried out to reassess their conservation status based on IUCN threatened categories using preliminary field observations and data in order to contribute to the national red listing with robust data. The species were evaluated based on the criteria B of the IUCN guidelines 2017. The conservation statuses of two *Salacia* species *S. acuminatissima* and *S. chinensis* have remained same as the previous conservation statuses determined at national level as Endangered (EN) and Near threatened (NT) respectively. However, *S. diandra* was upgraded to the category of Critically Endangered (CR). The statuses of *S. oblonga* and *S. reticulata* were downgraded from Endangered (EN) to Near threatened (NT). Conservation statuses obtained using preliminary data and the upgrading the status of a taxa and downgrading of the statuses of two taxa is of prime importance to prioritize conservation of the members of the Genus *Salacia* in globally.

Keywords: *Salacia*; Geographical distribution; Conservation categories.

INTRODUCTION

The genus *Salacia* comprises of nearly 200 species of woody lianas, scandent or erect shrubs distributed in tropical parts of India, Burma, Sri Lanka, Malaysia, Soloman islands, Africa and New World (Wadhwa, 1996). This genus is well-known for its medicinal values to cure high blood sugar, rheumatism, gonorrhoea and skin diseases (Paarakh *et al.*, 2008; Arunakumara and Subasinghe, 2010; Chawla *et al.*, 2013; and Musini and Giri, 2015 and Medagama, 2015). During the revision of the Flora, Wadhwa (1996) recognized four species of *Salacia* occurring in Sri Lanka; *S. chinensis* L., *S. diandra* Thw., *S. oblonga* Wall ex Wight & Arn. and *S. reticulata* Wight. However, during the most recent Red listing in 2012, *S. acuminatissima* has also been recorded as a new species occurring in the wet zone of Sri

Lanka (Kostermans, 1992). This species has been considered as a synonym of *S. diandra* during the revision of the Flora by Wadhwa (1996). *S. acuminatissima* was first described by Kostermans (1992) based on plants collected from Sinharaja forest reserve. Out of the five species recorded in Sri Lanka, *S. acuminatissima*, *S. diandra*, *S. oblonga* and *S. reticulata* are categorized as endangered species while *S. chinensis* is recorded as a near threatened species in the National Red List 2012 of Sri Lanka (MOE, 2012). The evaluations of threatened status of above plants in the Sri Lanka are conducted based on the available literature, herbarium records, field experience and records of experts. Therefore, the conservation status decided are considered as national conservation status rather than global, as the requirements laid down by the IUCN Redlisting criteria such as population size reduction and population reduction, geographic range in the form of extent of occurrence and area of occupancy, small population size and decline and very small or restricted population are not achieved. Among the plant species belongs to the genus *Salacia* recorded island wide, *S. acuminatissima* and *S. diandra* limited to the wet zone and majority of *S. chinensis* and *S. reticulata* limited to dry zone while *S. oblonga* majority found also in to the wet zone. A mature plant members of *Salacia*, produces large number of seeds per a season (Arunakumara and Subasinghe, 2010). This species is can be regenerated by seed propagation, vegetative propagation using stem cuttings and root cuttings (Arunakumara and Subasinghe, 2010). Although these plant species produce several seeds, germination ability are poor (Arunakumara and Subasinghe, 2010). The genus *Salacia* includes the well-known medicinal plant 'Kothala-himbutu', *S. reticulata*. The plant is widely used in the Ayurvedic system to treat diabetes and obesity (Medagama, 2015). In some instances, the other *Salacia* species, especially *S. chinensis* and *S. oblonga* are also supplemented in the drug stores for treating diabetics (personal communications). During the exploitation of these species for medicinal use the mature plants are cut-down to obtain parts of the stem and also mature branches which directly affects the survival and reproduction of the plant. Therefore, recording

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existing populations in different bioclimatic regions with their abundance has become a timely need to conserve these taxa for sustainable use in the future. A study carried out with field visits covering the entire island provides firsthand information in acquiring the information on the habitats and threats for the existing populations. Further the collected data would contribute can be used to update the information for future Red-listing processes. The National Red List 2012 (MOE, 2012) of Sri Lanka is the current working document which includes the IUCN conservation status of many taxonomic groups, including Angiosperms, Gymnosperms, Pteridophytes, Invertebrates, Amphibians, Reptiles, Birds, Fish and Mammals. The National Red listing document provides baseline information obligatory for the preparation of species profiles of threatened taxa, a basis for prioritizing conservation efforts and data necessary for the compiling and implementation of recovery plans. Further it also provides details of information gaps regarding specific taxa and geographic areas and allows for objective prioritization of funding for conservation-oriented research (MOE, 2012). Further, the conservation status of species has been used globally to guide conservation responses, direct conservation policies and legislation, plan

protected area networks and prioritize sites to be protected (Possingham *et al.*, 2002). Therefore, the objective of the study was to conduct an eco-geographical survey to record all *Salacia* species in Sri Lanka in order to reassess the IUCN threatened categories of genus *Salacia*.

MATERIAL AND METHODS

The study was conducted from the January 2016 to December 2018 for a period of two years. *Salacia* species were collected from all possible locations in Sri Lanka (Figure 1 and Table 1), covering all major climatic zones of the country. This included all the administrative provinces of the country.

The plants were identified using the National Herbarium, Royal Botanic Gardens Peradeniya and literature (Flora of Ceylon, Wadhwa B.M., 1996 and Reinwardtia, Kostermans A.J.G.H). All the locations were recorded using a Global Positioning System (Garmin Etrex 10, USA). Possible causes of threats for each subpopulation were recorded at all locations. A visual estimation of the subpopulation for each location was also recorded.

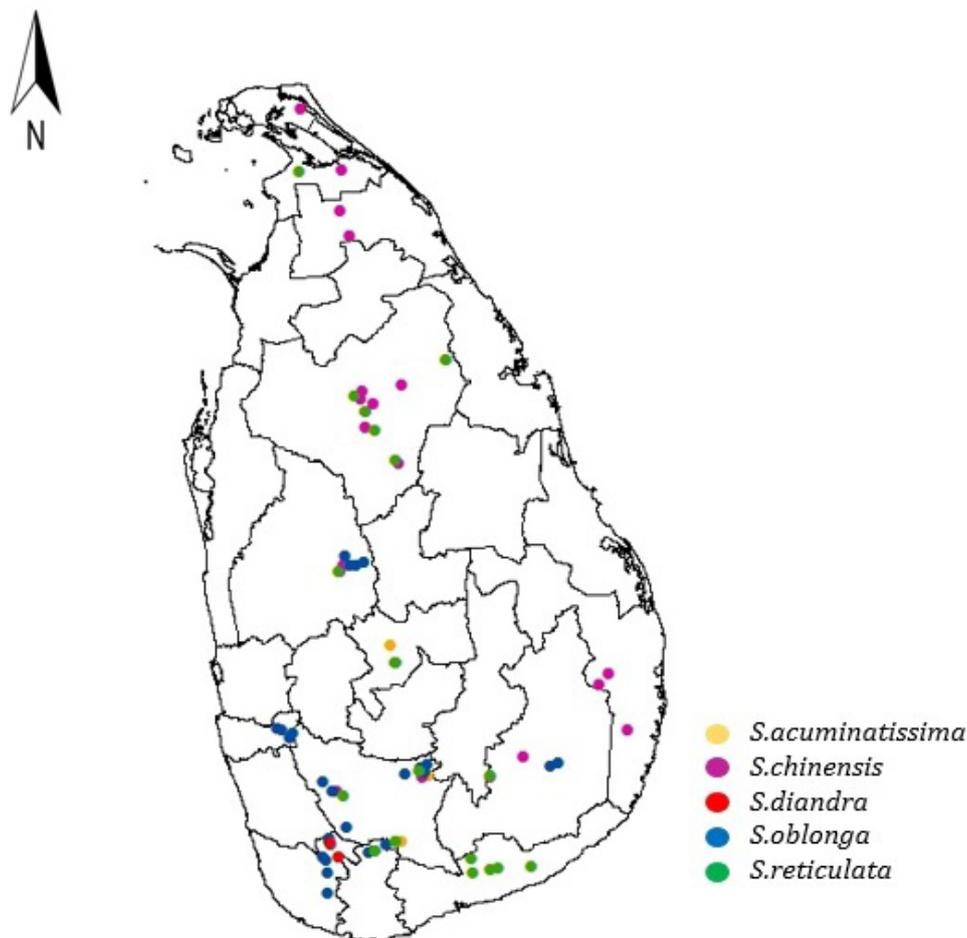


Figure 1: Geographical distribution of *Salacia* species recorded during the study in Sri Lanka.

Table 1: Geographical distribution of the genus *Salacia* species recorded in Sri Lanka.

Sample ID	Species name	Climatic zone	Administrative district	DSD division	Habitat
SBRA14	<i>Salacia accuminatissima</i>	Intermediate	Rathnapura	Panawagama	Buffer zone of tank
CEKA04	<i>Salacia accuminatissima</i>	Wet	Kandy	Hantana	Wet evergreen forest interior
WPCO03	<i>Salacia accuminatissima</i>	Wet	Colombo	Kaluaggala	Wet evergreen forest interior
SUMA08	<i>Salacia accuminatissima</i>	Wet	Matara	Buthkanda	Wet evergreen forest interior
NCAN07	<i>Salacia chinensis</i>	Dry	Anuradhapura	Ritigala	Dry mixed evergreen forest interior
NCAN16	<i>Salacia chinensis</i>	Dry	Anuradhapura	Katupotha	Secondary forest patch in urban area
UVMO03	<i>Salacia chinensis</i>	Intermediate	Monaragala	Buduruwagala	Secondary forest interior
UVMO05	<i>Salacia chinensis</i>	Intermediate	Monaragala	Buttala	Buffer zone of tank
SBRA12	<i>Salacia chinensis</i>	Intermediate	Rathnapura	Ihala Galagama	Intermediate forest interior
SBRA17	<i>Salacia chinensis</i>	Wet	Rathnapura	Badulu dena	Buffer zone of tank
SBRA18	<i>Salacia chinensis</i>	Wet	Rathnapura	Kottegoda	Secondary forest patch in urban area
NWKU01	<i>Salacia chinensis</i>	Intermediate	Kurunegala	Dolukanda	Intermediate forest interior
NCAN20	<i>Salacia chinensis</i>	Dry	Anuradhapura	Wilpattu	Buffer zone of tank
ESAM01	<i>Salacia chinensis</i>	Dry	Ampara	Lahugala	Buffer zone of tank
NCAN09	<i>Salacia chinensis</i>	Dry	Anuradhapura	Galkulama	Abandoned paddy land near tank
NCAN10	<i>Salacia chinensis</i>	Dry	Anuradhapura	Galkulama	Buffer zone of tank
NCAN13	<i>Salacia chinensis</i>	Dry	Anuradhapura	Horowpathana	Secondary forest patch
NCAN15	<i>Salacia chinensis</i>	Dry	Anuradhapura	Rambewa	Buffer zone of tank
NCAN19	<i>Salacia chinensis</i>	Dry	Anuradhapura	Mihintale	Buffer zone of tank
NWKU07	<i>Salacia chinensis</i>	Intermediate	Kurunegala	Aran kale	Intermediate forest interior
NOJF02	<i>Salacia chinensis</i>	Dry	Jaffna	Varani	Urbanized area
NOKL01	<i>Salacia chinensis</i>	Dry	Kilinochchi	Paranthan	Secondary forest patch
NOKL03	<i>Salacia chinensis</i>	Dry	Kilinochchi	Kokawil	Secondary forest patch
NOKL04	<i>Salacia chinensis</i>	Dry	Kilinochchi	Mankulama	Secondary forest patch
ESAM02	<i>Salacia chinensis</i>	Dry	Ampara	Wadinagala	Dry mixed evergreen forest interior
ESAM03	<i>Salacia chinensis</i>	Dry	Ampara	Wadinagala	Urbanized area
SUGA01	<i>Salacia diandra</i>	Wet	Galle	Kalubowitiya	Wet evergreen forest interior
SUMA04	<i>Salacia diandra</i>	Wet	Matara	Neluwa	Wet evergreen forest interior
SBRA20	<i>Salacia oblonga</i>	Wet	Rathnapura	Wathurawa	Wet evergreen forest interior
SUGA07	<i>Salacia oblonga</i>	Wet	Galle	Radagoda	Urbanized area
SUMA10	<i>Salacia oblonga</i>	Wet	Matara	Viharahena	Wet evergreen forest interior
UVMO01	<i>Salacia oblonga</i>	Intermediate	Monaragala	Maligawila	Secondary forest interior
UVMO02	<i>Salacia oblonga</i>	Dry	Monaragala	Kumbukkan oya	Along the river banks
SBRA03	<i>Salacia oblonga</i>	Intermediate	Rathnapura	Belihuloya	Intermediate forest interior
SBRA04	<i>Salacia oblonga</i>	Intermediate	Rathnapura	Karagastalawa	Urbanized area
SBRA16	<i>Salacia oblonga</i>	Intermediate	Rathnapura	Karagastalawa	Urbanized area
NWKU06	<i>Salacia oblonga</i>	Intermediate	Kurunegala	Kumbuk wewa	Intermediate forest interior
CEKA01	<i>Salacia oblonga</i>	Wet	Kandy	Nillamba	Wet evergreen forest interior
CEKA02	<i>Salacia oblonga</i>	Wet	Kandy	Galaha	Wet evergreen forest interior
WPCO01	<i>Salacia oblonga</i>	Wet	Colombo	Labugama	Wet evergreen forest interior
WPCO04	<i>Salacia oblonga</i>	Wet	Colombo	Kakkutudeniya	Wet evergreen forest interior
SBRA10	<i>Salacia oblonga</i>	Wet	Rathnapura	Karawita	Wet evergreen forest interior
SBRA13	<i>Salacia oblonga</i>	Intermediate	Rathnapura	Karape	Buffer zone of tank

SBRA15	<i>Salacia oblonga</i>	Intermediate	Rathnapura	Belihuloya	Buffer zone of tank
WPCO02	<i>Salacia oblonga</i>	Wet	Colombo	Thummodara	Urbanized area
SUGA04	<i>Salacia oblonga</i>	Wet	Galle	Hiniduma kanda	Wet evergreen forest interior
SUGA06	<i>Salacia oblonga</i>	Wet	Galle	Kinniyawala	Forest edge
SUMA01	<i>Salacia oblonga</i>	Wet	Matara	Diyaduwa - North	Urbanized area
SUMA05	<i>Salacia oblonga</i>	Wet	Matara	Diyadawa	Urbanized area
SUMA06	<i>Salacia oblonga</i>	Wet	Matara	Ilukwatta	Wet evergreen forest interior
SBRA05	<i>Salacia oblonga</i>	Intermediate	Rathnapura	Belihuloya	Intermediate forest interior
SBRA09	<i>Salacia oblonga</i>	Wet	Rathnapura	Palawela	Disturbed forest
NWKU02	<i>Salacia oblonga</i>	Intermediate	Kurunegala	Siradunna	Intermediate forest interior
NWKU04	<i>Salacia oblonga</i>	Intermediate	Kurunegala	Kumbuk gate	Intermediate forest interior
NWKU05	<i>Salacia oblonga</i>	Intermediate	Kurunegala	Kumbuk wewa	Intermediate forest interior
SUGA03	<i>Salacia oblonga</i>	Wet	Galle	Nagala kanda	Wet evergreen forest interior
SUMA07	<i>Salacia oblonga</i>	Wet	Matara	Panil Kanda	Along tea plantation
SBRA06	<i>Salacia oblonga</i>	Intermediate	Rathnapura	Ihala Galagama	Urbanized area
WPCO05	<i>Salacia oblonga</i>	Wet	Colombo	Iluk owita	Urbanized area
SBRA07	<i>Salacia oblonga</i>	Intermediate	Rathnapura	Samanala wewa	Intermediate forest interior
SUGA02	<i>Salacia oblonga</i>	Wet	Galle	Kanneliya	Wet evergreen forest buffer
SUGA05	<i>Salacia oblonga</i>	Wet	Galle	Nakiyadeniya	Wet evergreen forest interior
SUGA08	<i>Salacia oblonga</i>	Wet	Galle	Neluwa	Wet evergreen forest edge
NCAN01	<i>Salacia reticulata</i>	Dry	Anuradhapura	Horowpathana	Buffer zone of tank
NCAN03	<i>Salacia reticulata</i>	Dry	Anuradhapura	Horowpathana	Secondary forest patch
NCAN06	<i>Salacia reticulata</i>	Dry	Anuradhapura	Ritigala	Dry mixed evergreen forest buffer
NCAN11	<i>Salacia reticulata</i>	Dry	Anuradhapura	Katupotha	Buffer zone of tank
NCAN12	<i>Salacia reticulata</i>	Dry	Anuradhapura	Mannakkattiya	Buffer zone of tank
NCAN17	<i>Salacia reticulata</i>	Dry	Anuradhapura	Kabithigollawa	Buffer zone of tank
UVM004	<i>Salacia reticulata</i>	Intermediate	Monaragala	Buduruwagala	Buffer zone of tank
SUHA01	<i>Salacia reticulata</i>	Arid	Hambantota	Mabunagala	Dry evergreen forest interior
SUHA02	<i>Salacia reticulata</i>	Arid	Hambantota	Sooriya wewa	Buffer zone of tank
SUHA03	<i>Salacia reticulata</i>	Arid	Hambantota	Aluthgan aara	Dry evergreen forest interior
SUHA04	<i>Salacia reticulata</i>	Arid	Hambantota	Aluthgan aara	Dry evergreen forest interior
SUHA05	<i>Salacia reticulata</i>	Arid	Hambantota	Tissamaharama	Dry evergreen forest interior
SBRA11	<i>Salacia reticulata</i>	Intermediate	Rathnapura	Seelagama	Urbanized area
SBRA21	<i>Salacia reticulata</i>	Wet	Rathnapura	Karawita	Wet evergreen forest interior
NWKU03	<i>Salacia reticulata</i>	Intermediate	Kurunegala	Hunupola	Urbanized area
CEKA03	<i>Salacia reticulata</i>	Wet	Kandy	Galaha	Wet evergreen forest interior
SUMA09	<i>Salacia reticulata</i>	Wet	Matara	Gongala	Wet evergreen forest interior
SUMA11	<i>Salacia reticulata</i>	Wet	Matara	Wiharahena	Wet evergreen forest interior
NOJF01	<i>Salacia reticulata</i>	Dry	Jaffna	Poonerin	Urbanized area

The potential distribution maps for each species were developed by plotting the GPS locations on a map of Sri Lanka using the software ArcGIS 10.4 (ESRI, 2017) and the extent of occurrence (EOO); “the area contained within the shortest continuous imaginary boundary which can be drawn to encompass all the known, inferred or projected sites of present occurrence of a taxon, excluding cases of vagrancy” (IUCN 2012 and 2017); of each species were determined based on the convex hull (the smallest polygon in which no internal angle exceeds 180 degrees and which contains all the sites of occurrence) and the area of occupancy (AOO); “the area of suitable habitat currently occupied by the taxon”; were calculated using a 2 x 2 km² grid on the map. The conservation statuses of

the five *Salacia* species were evaluated with the available data strictly adhering to the recommended guidelines of the IUCN (IUCN, 2017).

During the present study, assessing the threatened statuses of *Salacia* species was carried out based on criteria B, which considers only the current AOO and EOO data together with two of the three given conditions; (a) Severely fragmented OR number of locations and (b) Continuing decline observed, estimated, inferred or projected in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) area, extent and/or quality of habitat; (iv) number of locations or subpopulations; (v) number of mature individuals since data and information for other criteria were not available.

RESULTS AND DISCUSSION

In the island-wide field collection, 82 distinct populations of *Salacia* species have been recorded, which were distributed across 13 administrative districts i.e. Anuradhapura, Hambantota, Galle, Matara, Monaragala, Kandy, Kurunegala, Puttalam, Colombo, Jaffna, Kilinochchi, Ampara and Rathnapura representing all major climatic zones.

According to the results, all *S. acuminatissima* were recorded in the wet and intermediate climatic zones while majority of *S. chinensis* were recorded in the dry and intermediate zones with very few records in wet zone. *S. diandra* is restricted to the wet zone while all the *S. oblonga* were recorded from the wet and intermediate zones except one population from Monaragala, Kumbukkan Oya area. Although majority of *S. reticulata* were recorded from the dry and intermediate zones few individuals were also recorded from the wet zone. According to the above data *S. chinensis* and *S. reticulata* are more adapted to the dry and intermediate climatic zones while *S. acuminatissima*, *S. diandra* and *S. oblonga* to the wet and intermediate climatic zones. Among those 82 distinct populations recorded in the present study, 69 were new records indicating that 84% of the populations are new records for the genus *Salacia* (Table 2).

Remaining 13 distinct populations out of 82 have been recorded in Revised Handbook to the Flora of Ceylon and herbarium specimens deposited at the National Herbarium, Royal Botanic Gardens, Peradeniya.

According to the habitats, most of the *Salacia* species recorded during the present study were recorded from the interior of natural forests. Although majority existed in the natural forests, these species were also recorded in disturbed, urbanized and cultivated areas in fewer numbers (Table 3).

The Table 4 gives the IUCN recommended EOO and AOO values for species categorization (IUCN 2017) while the Figure 2 illustrates the distribution maps with the polygons used for the EOO estimations and Table 5 gives the estimated EOO values and AOO values for the genus *Salacia*.

Among 82 distinct populations encountered during the study majority of them were not under any specific threat except few populations of *S. chinensis*, *S. oblonga* and *S. reticulata* that were recorded in human inhabited areas, urbanized areas and associate with water reservoirs. The threat that was observed for these three species with high medicinal value is the harvesting of mature branches. However, this cropping does not affect the mature individuals as they always resprout with the rains. The term ‘severely fragmented’ has been used according to the guidelines given by IUCN 2017. For deciding whether there is a severe fragmentation, number of locations and the distribution of area of occupancy (detailed maps of occupied habitat) have been used. According to the IUCN 2017, a taxon can be considered to be severely fragmented if most (> 50%) of it is total area of occupancy is in habitat patches that are separated from other habitat patches by a large distance.

Table 2: Comparison of the distinct populations of *Salacia* species recorded during the present study with past records.

Species	Number of recorded distinct populations	Number of newly recorded distinct populations	Percentage of newly record distinct populations
<i>S. acuminatissima</i>	4	3	75%
<i>S. chinensis</i>	23	17	74%
<i>S. diandra</i>	2	1	50%
<i>S. oblonga</i>	36	32	89%
<i>S. reticulata</i>	19	16	84%

Table 3: Habitats of the members of the genus *Salacia*.

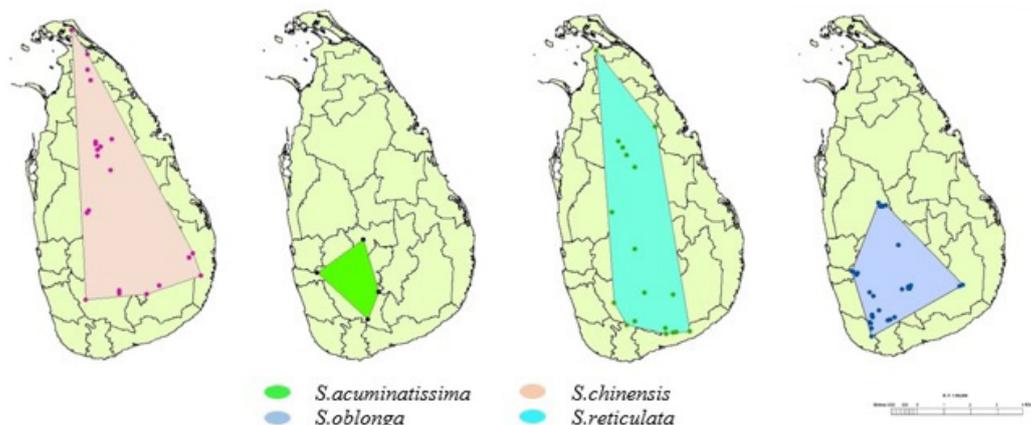
Plant species	Disturbed forest	Natural Forest	Associates with water reserves	Urbanized area	Human inhabited area
<i>S. acuminatissima</i>	-	3	1	-	-
<i>S. chinensis</i>	5	5	7	4	1
<i>S. diandra</i>	-	2	-	-	-
<i>S. oblonga</i>	4	19	3	8	1
<i>S. reticulata</i>	1	9	6	3	-

Table 4: IUCN recommended EOO and AOO values for species categorization.

	Critically Endangered (CR)	Endangered (EN)	Vulnerable (VU)
EOO value	< 100 km ²	< 5000 km ²	< 20000 km ²
AOO value	< 10 km ²	< 500 km ²	< 2000 km ²

Table 5: Estimated EOO values and AOO values for the genus *Salacia*.

Species	EOO value (km ²)	AOO value (km ²)
<i>S.acuminatissima</i>	3,649.89	15.99
<i>S.chinensis</i>	29,703.60	85.97
<i>S.diandra</i>	55.01	7.99
<i>S.oblonga</i>	12,322.00	119.11
<i>S.reticulata</i>	22,899.50	72.33

**Figure 2:** The distribution maps with the polygons used for the EOO estimations for four *Salacia* species except *S. diandra*.

Based on the EOO (B1) and AOO (B2) values of the five *Salacia* species, *S. diandra* is the rarest species (EOO = 55.01km² and AOO = 7.99km²) which is confined to two populations recorded in Galle and Matara districts. According to Criterion B, based on geographic range, with only 55.01km² of the extent of occurrence and 7.99km² of area of occupancy, this species qualifies for Critically Endangered (CR) category under the thresholds for both B1 and B2 (for this species polygon was not prepared and EOO and AOO were estimated using standard method due to restriction of two populations). Further, the current population of *S. diandra* is clearly fragmented into small patches of less than 100 m² and it can be projected the declining of population. Thus this species qualifies for Critically Endangered (CR) under the both B1a, B1b and B2a and B2b.

Salacia acuminatissima is also a rare species that is confined to the four populations in wet zone (EOO = 3,649.89km² and AOO = 15.99km²). According to Criterion B, based on geographic range, with 3649.89km² of the extent of occurrence and 15.99km² of area of occupancy, this species qualifies for Endangered (EN) category under the thresholds for both B1 and B2. Further, the current population of *S. acuminatissima* is very clearly fragmented into a four small patches of less than 100 m² and it can be projected the declining of population because of number of individuals in each population is very limited. Thus this species qualifies for Endangered (EN) under the both B1a, B1b and B2a and B2b.

Conservation of *S. acuminatissima* and *S. diandra* has become a critically important factor not only because they are EN and CR respectively, but also as these two species

are restricted to limited areas of undisturbed forests in the wet zone of the country.

Another *Salacia* species, *S. oblonga* has a wider population distribution than *S. acuminatissima* and *S. diandra* with a 12,322 km² of the extent of occurrence and 119.11 km² of area of occupancy. According to the EOO value this species qualifies for vulnerable (VU) category and according to the AOO value qualifies for Endangered (EN) category under the thresholds for both B1 and B2. Further, the populations of *S. oblonga* are not clearly fragmented into small patches and could not be projected to declining of population. Thus this species qualifies for Near threatened (NT) category under B2 and B2b.

Salacia chinensis is the most common species belonging to the genus *Salacia* in Sri Lanka and has a wide range of population distribution with 29,703.6km² of the extent of occurrence and 85.96 km² of area of occupancy. According to the EOO value this species not qualifies for Vulnerable or any above conservation level and according to the AOO value, qualifies for Endangered (EN) category under the thresholds for both B1 and B2. Although populations of *S. chinensis* are widely distributed, there is a probability for declining of population due to high medicinal demand in the local market. Therefore, this species qualifies for Near threatened (NT) under the B2 and B2b.

Salacia reticulata, commercially the most important species that belongs to the genus *Salacia* occupies an area of 22,899.5km² of the extent of occurrence and 72.33km² of area of occupancy according to the criterion B, based on geographic range. This species qualifies for Near Threatened (NT) category under the thresholds for both B1 and qualifies for Endangered (EN) category under the

threshold of B2. *Salacia reticulata* can be projected as declining because people tend to harvest this due to high medicinal value for their economic benefits. According to that this species qualifies for near threatened (NT) under the B2 and B2b. Table 6 indicates the proposed

conservation statuses of species belongs to genus *Salacia* while comparing the conservation status according to the National Redlist of 2012 Sri Lanka.

Table 6: Conservation statuses proposed according to the EOO, AOO and current conservation status according to National Red List 2012 in Sri Lanka for the genus *Salacia*.

Species	Conservation Status According to		Proposed final Conservation Status	Conservation Status (National Red List Sri Lanka 2012)
	EOO	AOO		
<i>S. acuminatissima</i>	EN	EN	EN	EN
<i>S. chinensis</i>	NT	EN	NT	NT
<i>S. diandra</i>	CR	CR	CR	EN
<i>S. oblonga</i>	VU	EN	NT	EN
<i>S. reticulata</i>	NT	EN	NT	EN

Critically Endangered (CR), Endangered (EN), Vulnerable (VU), Near Threatened NT



Plate 1: A, B, C – Ripen fruit, inflorescence and well established population of *S. chinensis*, D, E and F – Habit of *S. reticulata* and inflorescence, G and H – Branches without fruits and with fruits of *S. oblonga*.

CONCLUSION

According to the present evaluation of the IUCN Red Data status, out of five *Salacia* species recorded in Sri Lanka, conservation statuses of two *Salacia* species namely *S. acuminatissima* and *S. chinensis* have remained same as the previous conservation categories determined at national level (National red list 2012 of Sri Lanka) as Endangered (EN) and Near threatened (NT) respectively while *S. diandra* was upgraded to the category Critically Endangered (CR). The conservation statuses of other two *Salacia* species *S. oblonga* and *S. reticulata* were downgraded from Endangered (EN) to Near threatened (NT). The upgrading and downgrading of category is the result of new information about the geographical distribution of populations. The upgrading of *S. diandra* conservation status and downgrading of *S. oblonga* and *S. reticulata* conservation statuses are important outcome of the present study.

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