

Identification of the threat of invasive alien terrestrial flora species in the Bellanvila - Attidiya sanctuary of Sri Lanka

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The Bellanvila-Attidiya sanctuary of Sri Lanka has an extent of 372 hectares, and was declared a sanctuary on July 25, 1990. Observations were made according to the Kandawala Sri Lanka grid (Bellanvila-Attidiya sanctuary: Altitude 3-5 meters; Extend Top 183219.04; Right 104103.49; Bottom 179686.46; Left 101687.56) in the Colombo district of the Western Province, Sri Lanka. According to the Environment Conservation Trust, it had 168 species of birds, 44 species of fish, 72 species of butterflies, 37 species of dragonflies, 30 species of reptiles and about 150 to 200 species of plants. It was also one of the 41 wetlands with highest biodiversity as named by the Asian Wetlands Directory in 1989.

The Bellanvila-Attidiya sanctuary contains invasive terrestrial and aquatic flora species. The objectives of the study were to identify the threat of the terrestrial invasive flora and prepare a threat map. The Stratified Random Sampling method was used, coupled with Geographical Information System (GIS), participatory mapping, satellite image comparison, Geographical Positioning System (GPS) technology, and field observation in the five main sites identified in the study area, with 100 random validation GPS points. *Annona glabra* was the main terrestrial invasive species of the Bellanvila-Attidiya sanctuary; its coverage was 863,214 m² (23.2%). *Lantana camara* and *Tithonia diversifolia* covered 0.040% and 0.034% respectively. The extent of the spread of terrestrial invasive species in the sanctuary was 1 sq km, which seems to be rapidly expanding around this wetland. Therefore, initiation of control strategies for IAS in the Bellanvila - Attidiya sanctuary is important.

Key words: Invasive alien species, geographical information system, satellite image, *Annona glabra*, threat.