PRELIMINARY SURVEY OF SERPENTINE VEGETATION IN UDA WALAWE AREA

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Serpentine, bearing the general formula: $Mg_3Si_2O_5(OH)_4$ denotes a group of hydrous, magnesium silicate minerals. Sri Lanka too, serpentine bodies occur roughly on the boundary of Vijayan and Highland series of rocks. The three principal serpentine areas of Sri Lanka are 'Ginigal-pelessa' and 'Indikola-pelessa' both close to Uda Walawe and, 'Ussangoda' near Nonagama Junction.

Within broad climatic zones, soils developed on serpentine mineral substrates harbor unique vegetation communities. Such communities are referred to as *lithobiomes* and have attracted scientific attention. Other examples of lithobiomes are vegetation on limestone and saline soils etc., which are interspersed within zonal soils.

Ginigal-pelessa and Indikola-pelessa serpentine bodies are located about three kilometers apart. The area receives a rainfall of about 1325mm/yr and the average number of rainy days per year is 94. The maximum amount of rain comes between October and December.

The objective of the present study was to initiate a survey of vegetation in these two unique areas. The study was initially begun in September 1998 in Ginigal-pelessa and was extended to Indikola-pelessa in 1999. It included reconnaissance of the two areas followed by a survey of plant species and soil. Woody plant species were studied in 10 x 10m quadrats whereas, grasses and herbaceous plants were examined in 1 x 1m quadrats. Density of the grass vegetation and the abundance of woody plants along with girth were recorded. Slope of the areas was measured with an Abney level. Also examined in each area was a shallow soil pit and soil depth was measured in selected points, by means of an auger. Soil color was determined with the aid of a color chart, yet no soil chemical analyses were done.

In Ginigal-pelessa the maximum slope is 15% and it is 12% in Indikola-pelessa.

The substrate in both places is an *undifferentiated soil* developed from serpentine minerals. It is shallow (<45cm in Ginigal-pelessa and <42cm in Indikola-pelessa) and overlies partly weathered serpentinite rocks. The color varies from 7.5 3/2 YR-wet. It is friable (dry) and very friable (wet). It is a silty loam, which is slightly sticky, and slightly plastic when wet. Reddish Brown Earth (RBE) Surrounds the two areas, where the terrain is slightly undulating. The aggregate extent of the two areas is more than four km^2. Yet, only a few hectares of the associated vegetation remain fairly inact in Ginigal-pelessa whereas, almost the entire serpentine vegetation has been drastically changed in Indikola-pelessa.

The vegetation in both places has a savanna-like physiognomy though the woody plants are somewhat stunted. Dominant non-woody species is the tussock agrass *Cymbopogon flexuosus* Wats. This grass (max. Height 1.2m) along with other herbaceous and low woody plants provide a dense cover. The woody species are scattered apart.