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PRELIMINARY STUDY ON THE SERPENTINE VEGETATION OF GINIGAL-PELESSA

S.N.WICKRAMARATNE

Department of Geography, Faculty of Arts, University of Peradeniya, Sri Lanka

Within broad climatic zones special substrates such as limestone and saline soils and copper, iron, selenium and zinc bearing minerals interspersed within zonal soils harbour unique vegetations. Such vegetations are referred to as *lithobiomes*. Serpentine vegetations also are lithobiomes that have attracted scientific attention.

In Sri Lanka too, serpentine vegetations are found roughly on the boundary of Vijayan and Highland series of rocks. The three principal serpentine areas are: Ginigal-pelessa and Indikola-pelessa both close to the Sevanagala Sugar Factory and Ussangoda near Nonagama Junction.

Surrounded by Reddish Brown Earths (RBE) of the area, the Ginigal-pelessa serpentine patch covers about 200 ha. yet, only a few hectares of its associated vegetation remains fairly intact. 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 falls from October to December. The slightly undulating terrain has a maximum slope of 12%.

The substrate is an *undifferentiated soil* developed from serpentine minerals. It is shallow (<45cm) and overlies partly weathered serpeninite. The colour varies from 7.5 3/2 YR-dry to 7.5 YR-wet. It is friable (dry) and very friable (wet). It is a silty loam which is slightly sticky and slightly plastic when wet.

The vegetation has a savanna-like physiognomy though somewhat stunted. Dominant non-woody species is the tussock grass *Cymbopogon flexuosus* while *Morinda tinctoria* is the dominant woody species. The grass (max. height 1.2m) along with other herbaceous and low woody plants provide a dense cover while the woody species are scattered apart (x distance =1.8m, max = 25.6 m and min.=3.2m). Density of trees is 18 /1000m². Their dbh varies from 3cm to 18cm giving a basal area of 131cm²/m².

A total number of 15 plant species belonged to 12 families are recorded. Thier life form distribution is as follows: herbaceous species 3 (*Cymbopogon flexiosus*, *Cyperus sp.* *Leucas zeylanica*), low shrubs 2(*Tephrosia purpurea*, *Urena lobata*),creepers 2 (*Asparagus sp.* *Gloriosa superba*), shrubs 5 (*Calotropis gigantea*, *Carissa spinorum*,*Lantana sp.*, *Phoenix pusilla*, *Randia dumetorum*) tree species 3 *Morinda tinctoria*, *Pterospermum canescens*, *Vitex alitissima*). Absence of succulents (e.g. *Cactaceae*,*Crassulaceae* and *Euphobiaceae*) in spite of the xeric nature is noteworthy.

Human activities have been confined to periodic burning, removal of sticks, and the using of limited parcels for cattle sheds. Also, recently a considerable area has been acquired to provide housing for the sugar factory staff.