SUMMARY

A specific survey at random was conducted in the western part of Sib siaur district during 1978 to identify the fungi-toxic wild dicotyledonous flora of the region. The observations recorded as follows:

(i) Out of total collection of 304 species (240 genera from 86 families) only 151 species (120 genera from 51 families) were known to have medicinal properties used in various indigenous systems. The medicinal uses of Artemisia carauiflia Roxb (Asteraceae), Duabanga trandiflora (Roxb ex DC) Walp (Lythraceae), Dalberria rimoso Roxb. (Fabaceae) and Castanopsis indica A. DC (Cupuliferae) which were not reported earlier, are recorded in the present survey.

(ii) One hundred plant species having medicinal and relevant properties were used to study the fungi-toxicity using the plant pathogens viz. Helminthosporium oryzae Breda de Henn and Curvularia eragrostidis (" Henn) J. A. Meyer. Only twenty four extracts from twenty four species indicated fungi-toxicity, out of which twenty plant species having fungi-toxic properties have newly been recorded viz.

- Naravelia zeylanica DC. (Ranunculaceae)
- Trivalvaria arjentea Hk.f. (Anonaceae)
Rorippa indica (L) Hiem (Brassicaceae)
Vatairea lanceolata (Roxb) Bl. (Dipterocarpaceae)
Sida acuta Burn. (Malvaceae)
Olax acuminata Wall. (Olacaceae)
Duabanga grandiflora (Roxb ex DC) Walp (Lythraceae)
Alangium chinense (Lour) Rehder (Alangiaceae)
Sphaeranthus indicus Linn. (Asteraceae)
Xanthium strumarium Linn. (Asteraceae)
Siegesbeckia orientalis Linn. (Asteraceae)
Symplocos pyrifolia Wall. (Symplocaceae)
Symplocos caudata Wall. ex DC. (Symplocaceae)
Wrightia coccinea Sims. (Apocynaceae)
Lippia germinata H.B. K. (Verbenaceae)
Plectranthus macranthus Hk. f. (Lamiaceae)
Polygonum barbatum Linn. (Polygonaceae)
Polygonum perfoliatum Linn. (Polygonaceae)
Loranthus scurrula var. laevigata (Loranthaceae)
Castanopsis indica A.DC. (Cupuliferae)

(iii) The fungi-toxicity of the plants varies from species to species and also among the different parts of the same individual. However, out of all the plants tested, three plant species viz. Naravelia seylanica, Ranunculus scleratus and Duabanga grandiflora emerged to be most fungi-toxic.
Root barks of Duabanga grandiflora, roots of Naravelia zeylanica and aerial parts (seed, flower, leaf and stem) of Ranunculus scleratus exhibit maximum fungi-toxicity as compared to the other parts of the respective plant species.

The degree of toxicity varies due to dilution of the extracts. The extracts of Naravelia zeylanica root and Ranunculus scleratus seed, flower, leaf and stem are prominently inhibitory at 1:40 dilution whereas the extract of Duabanga grandiflora root bark is prominently inhibitory at 1:20 dilution only. Fungi-toxic properties of the extracts of these plant species are thermostatic at their respective dilutions. The activity of the extract loses in dry samples in Naravelia zeylanica and Ranunculus scleratus. However, Duabanga grandiflora does not lose its toxicity even after drying.

(iv) Fungi-toxicity in case of Naravelia zeylanica and Ranunculus scleratus is mainly due to the presence of volatile compound(s) in the plants which is a lactone-protoanemonin, produced as a result of hydrolysis of the glycoside ranunculin, present in the plant. This compound(s) is, however, converted into an inert substance-anemonin.
Thus, the active principle in both the cases seems to be a mixture of protoanemonin and anemonin. The fungi-toxic principle isolated and identified in case of *Duabanga grandiflora* is a complex mixture of four phenolic components of aromatic nature which is acidic, with high melting point.

Compared to the fungi-toxicity produced by the phenolic compound obtained from *Duabanga grandiflora* root bark, the mixture of protoanemonin and anemonin from *Naravelia seylanica* and *Ranunculus scleratus* produces maximum inhibition on the test organisms.