(r-7 and r-8 are in reverse order)

r-7. An open low forest. Grass almost secondary in importance.

Very large ant hills occur here. The very largest trees occur on these ant hills.

This is not an especially good agricultural country. The corn will yield only about two bags to the acre and it is not especially good grazing. It is generally said to be no good for ranch or farming, since water is very difficult to secure.

Walmar Park. Large number of trees of Combretum in the dry forest.

Bulawayo, Southern Rhodesia, November 5, 1919. Arrived at 7 a.m. The vegetation about Bulawayo is similar to that of Pretoria, with almost no change. The trees are for the most part small and scattered. Seldom over 12-20 feet high. Grass apparently about 3 feet high and soil 2-3 feet deep to a calcium layer. Ziziphus, Combretum, Burkea, Acacia albida, and many other trees occur here.

At this point I met Heller and Scott and prepared to go on on the inland route, while they prepared to go on up the coast.

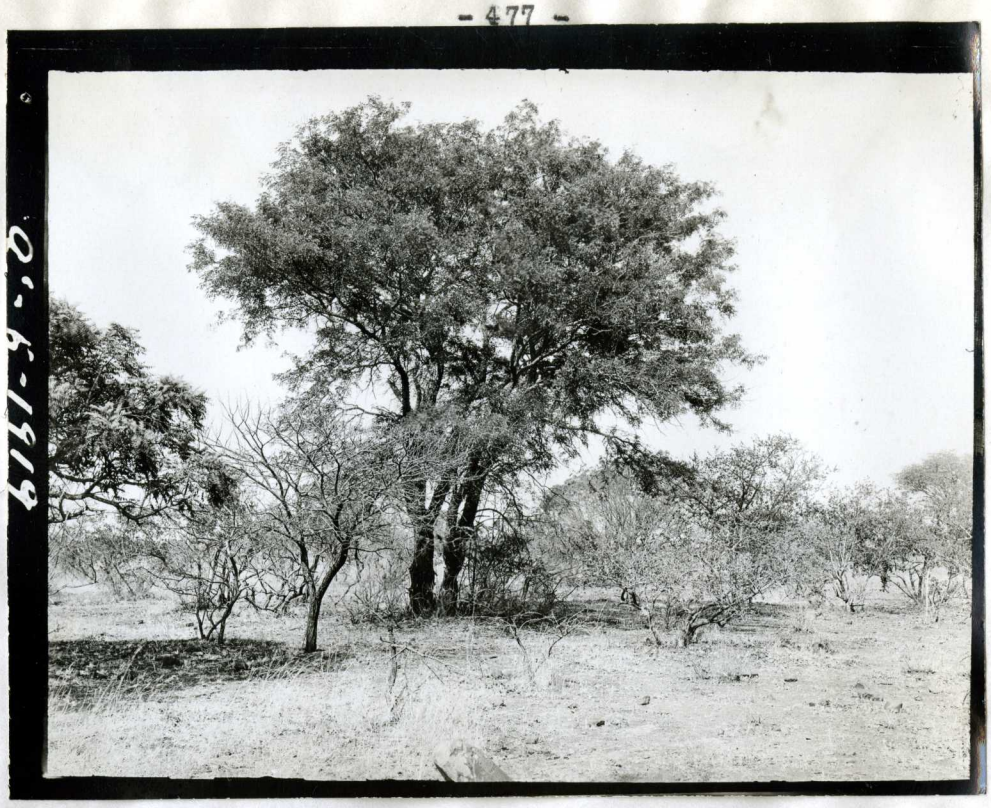
November 6, 1919. Out early collecting and photographing.

Pl-11. A soil profile. Soil dark and heavy to a depth of three feet. (Sample 14), then lighter with more gravel at 3 feet (Sample 15), with a chalk-like deposit at the bottom 4-5 feet (sample 16). All of these samples are heavy.

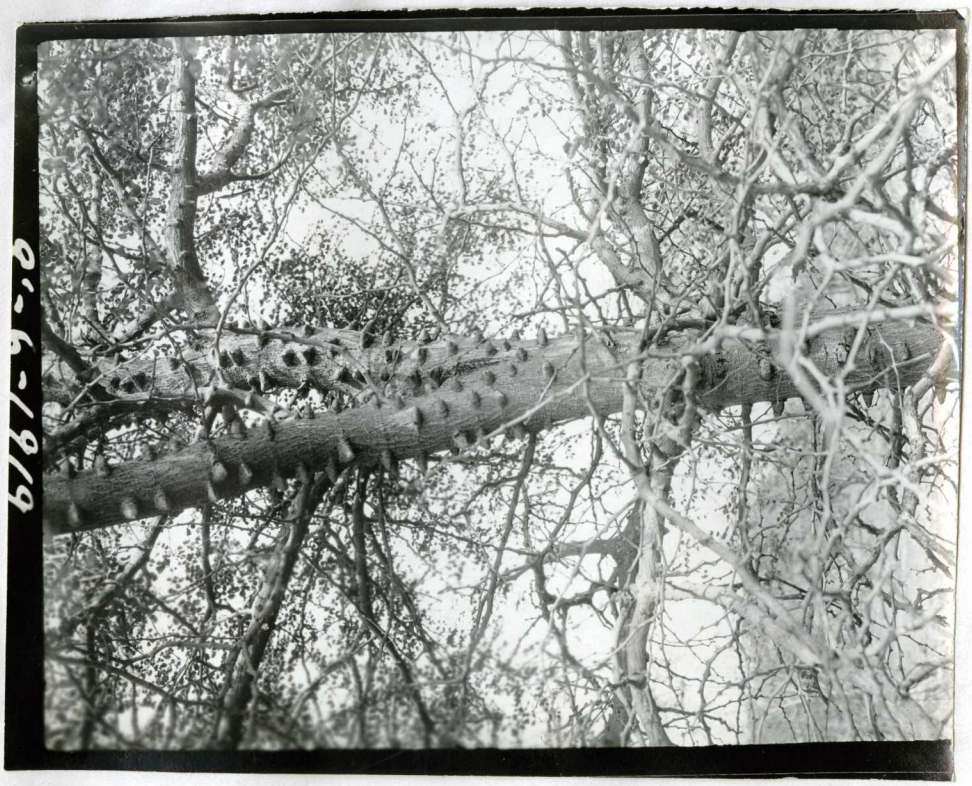
Pl-12. Detail of the soil changes. Heavy soil at the top of the photograph, then 1 foot of gravel with clay or light loam spots below.

Q^1-1. A general view showing Cymbopogon, Acacia albida, Acacia, Combretum (C. apiculatum among others), Ziziphus and Sclerocarya.

Q^1-2. Combretum in the foreground, with Acacia albida and trees and grasses in the back.



Q1-5. S.P.I. 49198, a very large acacia with good foliage and hard wood.



Q1-6. A detail of the bark of S.P.I. 49198.

Ql-7. S.P.I. 49221, a low spreading tree with black fruit. Very attractive and quite abundant in this section. See Herb. 372.

Ql-8. A general view of the vegetation at Bulawayo.

S.P.I. 49219, Ziziphus mucronata, a very handsome small tree, fruits abundantly.

S.P.I. 49220, a Ziziphus species. Much later than S.P.I. 49219, and has somewhat larger fruits.

Ziziphus is abundant in the bush veld at Bulawayo. These two numbers may be the same species, but they show great differences in fruiting habit. The tree is attractive, but the fruit rather too small to be useful. So far as I can determine, they are not used even by the natives.

S.P.I. 49204, Combretum apiculatum. A small tree, grows on dry land, should do well in the South and Southwest. See Herb. 374. Combretum and Acacia are among the most numerous trees of the low land. Combretum salicifolium is also abundant here.

S.P.I. 49197, Herb. 375, a small tree with white flowers which bears a heavy crop of beans.

S.P.I. 49215, Sclerocarya caffra, Herb. 139 and 193. This fruit has a pulp which is edible and also useful in making jam or beverages. The nut is one of the most valuable oil nuts of South Africa.

S.P.I. 49221, Herb. 372, a low spreading tree with black fruit. (see Ql-7).

S.P.I. 49198, Acacia species. A large handsome tree with very rough bark and recurved spines which remain on the bark. Tree about 30 feet high. Has fine foliage. See Herb. 373. (Ql-3 and Ql-4.)

S.P.I. 49216, Tetraphleura sp. This plant is used as a fish poision. It was obtained from near Beira.

S.P,I. 49213, Ricinodendron rautinenii, known in South Africa as the manketti nut, known as the M'Goma tree. Produces a large seed with a very hard coat. The wood is especially light. It is used wherever pith can be used and in the construction of especially light cases. Especially useful

where it can be covered with metal or leather. This wood, which is as light as cork, should be most valuable. The tree I believe will do well on the sandy soil of the South and Southwest, where it is not exposed to too extreme conditions of drought.

S.P.I. 49211, Passiflora edulis (granadillo). Fruit about 1½ X 2 inches. An agreeable flavor. These fruits are grown on almost every porch in Northern Rhodesia and at Sekania and Elizabethville. They are not ripe at just this time. The fruit is eaten by those who like it, although fruit eating seems to be a lost art in Africa, as fruit is almost never placed on the table, even in South Africa, where it is abundant.

S.P.I. 49218, Stizolobium deeringianum, a velvet bean grown locally and purchased from a seed dealer at Bulowayo. This and the following numbers were largely secured in the market at Bulawayo. In getting these seed I try to avoid improved European or American strains and have secured wherever possible the varieties grown by the natives themselves. These are often gathered by progressive seedsmen and handled, since even the natives purchase their seed from the seedsmen rather than grow their own:

S.P.I. 49212, S. 232 — Phaseolus aureus. Mung bean. Small, green.

S.P.I. 49206 S. 233-a — Cucurbita maxima. Macleary river pumpkin.

S.P.I. 49207 S. 233-b — " pepo

S.P.I.49203 S. 234 — Citrullus vulgaris. Majodas, a Kafir melon,ordnry sze

S.P.I.49202 S.235 — " " " " " large size

S.P.I. 49209 S. 236 — Holcus sorghum sudanensis. Sudan grass, Cape grown.

S.P.I. 49205 S. 237. — Cucurbita maxima. Iron bark pumpkin.

S.P.I. 49242 S. 238	Pennisetum glaucum. (M'yanti)
S.P.I. 49248 S. 239	Vigna sinenses. Kafir bean.Indumba.
S.P.I. 49227 S. 240	Arachis hypogaea. Cluster peanut.Br.East Afr.
S.P.I. 49201 S. 241	Cajan indicum.
S.P.I. 49232 S. 242	Citrullus vulgaris. Kafir melon. (Mauratan)
S.P.I. 49237 S. 243	Holcus sorghum. Kafir corn.
S.P.I. 49249 S. 244	Voandzeia subterranea. Kafir bean.
S.P.I. 49234 S. 245	Cucurbita pepo
S.P.I. 49231 S. 246	Canavali ensiforme. Native bean with a 12-18 inch pod.

General note.--The so-called mahogany is Copaiefera coleosperma. Teak is Baikaia plurijuga. The cassia pods and seeds are often used as fish poison.

At Bulawayo there is a nice herbarium, rather small, but good.

The red grass, or Natal grass as it is known, is Tricholaena rosea. The large Setaria is probably S. aurea. Cynodon dactylon or possibly Incompletus is a prominent grass at this place. The large side oat grass is Harpechloa capensis. A large grass collected at Lorenco Marques is probably Dactyloctenium aegyptium. Holcus halepensis was also collected at Bulawayo in February, and at Salisbury. A large blue-flowered plant which is abundant along the track seems to be Kaempferia. There are two common parasites here,--the one of mistletoe, Biscum, and the other a very showy plant with brilliant reddish flowers, Loranthus bulawayensis. There also occur here