

S.P.I. 49478. Differs from the above in having pure white flower which appears singly above the style.

S.P.I. 49479. *Lissichilus*. Herb. 441, see Y<sup>1</sup>-12, Z<sup>1</sup>-1, Z<sup>1</sup>-9.

S.P.I. 49586. *Diospyros senegalensis*, X<sup>1</sup>-8, and Herb. 435.

S.P.I. 49587, X<sup>1</sup>-7.

S.P.I. 49169 and S.P.I. 49462, *Garcinia*, see Z<sup>1</sup>-7.

December 6, 1919. Out on a long trip south of the camp, on which I saw little of special interest except a *Gloriosa* lily of which I secured three corms (my number 322, Herb. 470, *Gloriosa virescens*), also see sketch. A very handsome lily which often grows to a height of 10-12 feet.

S.P.I. 49594, *Gossipium* sp., see Herb. 468. A tree of considerable size about 6 feet high, with rough bark. Leaves similar to cotton and fruit also, but with brown lint. Have seen several of these but none in flower.

Note.-- This plant has proven of special interest to Mr. Lewton, who regards it as entirely new thing and we are endeavoring to secure new seeds of it.

December 7, 1919. S.P.I. 49595, *Ochna*. See B<sup>2</sup>-10 and Herb. 464.

S.P.I. 49596, *Ochna*. See B<sup>2</sup>-5 and B<sup>2</sup>-11, Herb. 465, my number 328, *Sansiveria*, known locally in the Masskulumba language as musuka, inchinyanja m'gonji. This is relatively tall round-leaf type. Very valuable as fiber plant. Is used by natives chiefly in making fishing line. Attempts have been made to use it in place of sisal. See Z<sup>1</sup>-3 and Z<sup>1</sup>-4. My number 329, *Sansiveria*, with heavy short, flat leaf and short spike about 1 foot high. Have seen only one plant in flower.

Shantz 330. A fruit of *Adansonia digitata*, the baobab tree. Seeds surrounded by a dry white powdery pulp which is eaten by the natives and also



made into a drink similar to lemonade. The pulp is very acid in taste.

See sketch of fruit.

Shantz 331, Copaifera mopane, one of the most valuable timber trees of this section. Timbers used especially for mine props, where it resists attack better than most woods. It is also used extensively by natives. See Z<sup>1</sup>-5, also Herb. 439.

Shantz 332. A small lily with a very attractive flower. Seeds picked up at the last moment when in a great hurry.

S.P.I. 49597. Odina edulis. Grape-like fruit with somewhat musty but pleasant flavor, and supposed to be a cure for black-water fever. The fruits are produced before the leaves and the latter appear at about the time the fruits are ripe. The fruits are dark purple in color and the skin very delicate. It is acaulescent, the leaves reminding one of the Umbilifers. Very little developed above ground and in this way exhibits the effects of the annual fires.

S. P.I. 49592. Lagenaria vulgaris. See Z<sup>1</sup>-10 and Z<sup>1</sup>-11, also sketch. This gourd grows on a vine which reaches to the tops of high trees along the river bank. It is used by natives in making soap and said by native boys to be edible by cattle and hogs. Gourd is a deep-green color with light yellow spots.

S.P.I. 335, Herb. 432. A very small plant with exceedingly bright-colored flower. See sketch. Only a few seeds secured.

S.P.I. 49465, Protea abyssinica. See Herb. 463, also B<sup>2</sup>-6 and B<sup>2</sup>-9.

S.P.I. 49471, undetermined. A bract fruit which looks something like Prunus dumisa, but is not a pome fruit. Called tantanyara in Chinyanja. See Herb. 455.

Shantz 338. A cucurbit-like vine with a small paper-shell fruit 3/4 inch in diameter. Perfectly dry when ripe.



Shantz 339. Seed of a lily. Flowers not seen.

Shantz 340. A soy-bean-like plant. Only a few seeds found. One of the most annoying things about the legumes is that they are often entirely destroyed by weevils before they are entirely ripe.

S.P.I. 49610. *Thunbergia*. An attractive flower with a trumpet-like 5-parted corolla, 2 divisions in the ovary and four fruited, and no sterile stamens. Opposite leaves. Herb. 471. Very attractive, low bush plant. Usually about 1 foot high.

Shantz 342. See Herb. 472. *Cissus*. An *Odina* like plant but fruit brown on the top of a relatively large herbaceous growth.

S. P. I. 49598. *Sesamum orientale*. Herb. 459. The plant grows wild here as a semi-ruderal. It is a perennial or at least at times seems to be a biennial. Only a few old pods secured.

Shantz 344. See C<sup>2</sup>-12, also Herb. 467.

S. P. I. 49469. *Capparis*. A small tree with large white flower and many yellow stamens. Produces fruit with hard shell. Called in Chinyanja m'seche and used chiefly to make ankle rattles. Fruit said to be eaten by some. Old fruit has the odor of letche.

S. P. I. 49582, an acacia with a very delicate papery pod. Abundant along the north side of the Kafue.

S.P.I. 49588, *Erythrina* sp. An attractive tree with thick pods contracted around each red bean. Seeds are used for ornamental purposes and at places this tree is planted as an ornamental.

S.P.I. 49601. *Vigna* sp. A perennial strong grower. Herb. 469. Grows 3-4 feet high and produces well.

S.P.I. 49583. Acacia with a large thick pod similar to Acacia Robusta.

S. P. I. 49611. *Trochomeria* sp.

S.P.I. 49594. *Manihot glascovii*. Trees in rest condition with no flowers or leaves. This a Ceara rubber plant introduced from South America



but now one of the chief African rubber plants. I cannot remember where these seeds were collected. A few seeds were later secured at Elizabethville, where trees were in flower and fruit. Seems to grow very well. Trees about 15 feet high.

Shantz No. 352. A few seeds of very large yellow flower, prostrate legume, abundant here. Seeds have remained on ground throughout long drought period. It may be Baikaiea, but the key says Baikaiea are trees.

Shantz 353. A few seeds from a leguminous tree.



C<sup>2</sup>-7. A view across the Kafue river at Livingstone's Crossing, about 8 miles below the city of Kafue. The river here has low banks with tall cliffs at the right, and here at the base of the river is a relatively tropical forest. A large troupe of baboons were barking and gamboling about. The sun was just disappearing up the river when this photograph was taken. Just at the right of the weaver-bird's nest in the foreground is shown the head of one of the several hippos, which occasionally put up their heads and yawn. It is very difficult to take a photograph in the tropics after sundown.





C<sup>2</sup>-8. Similar to C<sup>2</sup>-7.



C<sup>2</sup>-9. Similar to C<sup>2</sup>-7



no neg

C<sup>2</sup>-10. Similar to C<sup>2</sup>-7.



C<sup>2</sup>-11. 64 - 7 seconds. Shows a path leading through the tall grasses down to the river through which, according to the local whites, Livingstone made his way when crossing the river at this point. Note the weaver-bird's nest in the center of the picture.





C<sup>2</sup>-12. 64 -35 seconds. A general view of the river from under the tree where Livingstone's Crossing begins.

December 8, 1919. This was a very bad day in camp. Almost all the boys were sick, Raven and I are also. Not convinced what is the trouble. May be from exposure. Walked 23 miles on the 5th and 6th, and that is a fair excuse in this country where the sun is unusually hot, but I am inclined to attribute it to bad food. Our pet baboon, named Kafue, is also very ill. Seems to be cutting teeth too fast. Very petulant. Like all children, wants much attention.

After a bad night got out early to photograph plants of Alotandra, but failed, as they had already wilted.





D<sup>2</sup>-1. Shows the attempts on the part of termites to cover large ant-bear hole. They have worked on this hole for several days and now have it almost closed in. At our camp they have eaten our oak camp pegs off, or better, up. On the whole they have not bothered us so much.

December 9, 1919. Fever temperature 104.8 most of the day. Did

little work.

D<sup>2</sup>-2. 64-3 seconds. Shows a native field of kaffir corn. This photograph shows a second crop being secured from the old roots. Also a number of replantings in the center of the photograph, where the old plants have died during the dry period. The planting consists of a single chop with a hoe, the seeds are dropped and the soil allowed to drop back and pressed down with the foot.

