

## Project Update: May 2019

### Succulent plants inventory survey

Survey localities were selected inside the reserve and in the surrounding landscapes. Stratified sampling was done based on the habitat type. A total of eight transects which were approximately 1 km away from each other were laid. In each of the eight transects, two plots (measuring 20 × 20 m) which were approximately 500 m away from each other were sampled for succulent plants. In each plot the date, transect number, plot number, habitat type, succulent plant scientific names and counts were recorded on the data sheet. As we moved from one plot to another new records of succulent plants were recorded on sight. Specimens of succulent plants with identity issues were collected for further identification at the East Africa herbarium. Photographs of most of the succulent plants were taken.

### Ethnobotanical survey of succulent plants:

Field observation, semi-structured questionnaires and focused group discussions were used to collect data. The main focus was to document the vernacular names, uses, harvesting procedure and preparation methods, plant population abundance, and whether changes had been registered over time and the cause of the changes.

### Results

	<p><b>Family Name:</b> Apocynaceae <b>Scientific Name:</b> <i>Desmidorchis foetida</i> <b>Description:</b> A massive erect succulent with narrow( to 4cm thick) stem and with hairy dark maroon flowers to 13mm diameter; petal tube tubular, lobes triangular with many vibratile hairs, spotty and warty within; corona with 2 outwardly directed points; pods diverging at 45° to 18cm long. <b>Local Name:</b> Lumiyach</p>
<p><b>Common Uses:</b> It smells very bad like human waste and it attracts houseflies. Flowers have hairs and produce a sticky gluey liquid. They open up in the morning from nine o'clock until midday and close up in the afternoon. Insects can be trapped in the glue. Butterflies and bees are repelled by it. It is used to treat stomach-ache in babies. <b>Mode of Preparation and application:</b> A piece of fresh stem is cut, mixed with water and boiled to obtain a solution which is consumed to treat stomach-ache in babies.</p>	



**Family Name:** Apocynaceae  
**Common Name:** Crown of thorns  
**Scientific Name:** *Edithcolea grandis*  
**Description:** A trailing, much branched succulent from a woody rootstock with yellow horny, conical knobs on the stems; flowers large, often 12cm diameter; petals with purple-black centre, yellow spotted towards outer edge, edged with vibratile, club-shaped hairs; pods 15-20cm long.  
**Local Name:** Kipng'amuren

**Common Uses:** grown as ornamental, used to treat mouth ulcers  
**Mode of Preparation and application:** the whole plant is uprooted, washed, mixed with water and boiled to obtain a solution which is used to treat mouth ulcers.



**Family Name:** Asphodelaceae  
**Scientific Name:** *Aloe secundiflora*  
**Description:** A large stemless rosette, usually solitary, leaves green, unspotted, more or less glossy, about 50x12-14cm; inflorescence to 1.5m high, up to 12 branches; flowers second, red with minute translucent spots.  
**Local Name:** Tangaratwe

**Common Uses:** human medicine, livestock medicine, fodder, and traditional brewing. Bee forage: It enhances the quantity and quality of honey output over the seasons. The sap is used as an ingredient of 'homemade' soaps and detergents  
 - Commercial extraction of aloes for markets abroad,

**Mode of Preparation and application:** The sap is mixed with honey and water to treat stomach problems.



**Family Name:** Apocynaceae  
**Scientific Name:** *Adenium obesum*  
**Common Name:** Desert rose  
**Description:** Succulent shrub or tree 0.3-6m; bark grey, smooth especially the lower part of the stem may be bulbous. Leaves (narrowly) obovate or elliptic, base cuneate or attenuate, apex rounded and mucronate or emarginate 5-22 and 0.5-6cm, glabrous or pubescent. Flowers white, pink or reddish, in dense terminal cymes; corolla tube 25-50mm, lobes 15-30mm long. Fruit grey or grey brown tapering at both ends, 16-24 by 1-1.5cm  
**Local Name:** Simbolwe

**Common Uses:** Ornamental, Medicine (latex & roots treat boils, roots used to control ticks), bee forage, fodder for livestock and game

**Mode of Preparation and application:** A piece of fresh root tuber is cut, crushed, and mixed with water to obtain a solution which is used to treat boils.

-The animal body is washed with the solution



**Family Name:** Crassulaceae

**Scientific Name:** *Kalanchoe citrina*

**Description:** An erect, hairy, weak perennial with oblanceolate to ovate, deeply toothed leaves, flowers yellow in a small dense terminal corymb; petal tube 8mm long.

**Local Name:** Ang'urwa

**Common Uses:** Used to treat wounds in livestock

**Mode of Preparation and application:** The leaves are crushed to produce a paste which is applied to the wound



**Family Name:** Vitacea

**Common Name:** Veld grape

**Scientific Name:** *Cissus quadrangularis*

**Description:** A fleshy tendrillate climber; roots sometimes tuberous; stem of 4 narrow straight ferruginous wings, horny and sometimes rough; leaves shallowly to deeply 3(-5)-lobed; ripe fruit yellow-scarlet, to 14mm long, ovoid.

**Local Name:** Sungurtute

**Common Uses:** the stem and roots are used to treat diarrhoea, external parasitism, foot rot, and pneumonia in cattle.

- It is also used to tuberculosis in human

**Mode of Preparation and Application:** the roots are boiled mixed with beef fat and the decoction drunk to treat tuberculosis

-The stem is pounded until its soft and fed to cow to treat diarrhoea, external parasitism, foot rot, and pneumonia in cattle

-The crushed stem is also applied on the udder of the cow when she refuses to nurse her new calf.



**Family Name:** Crassulaceae

**Scientific Name:** *Kalanchoe bipartita*

**Description:** Fleshy hairless herb to 25cm, from a rosette of stalked, circular, slightly round-toothed leaves; flowers orange; petal tube about 11mm long, lobes tapering to fine points.

**Local Name:** Kiplatkir

**Common Uses:** roots is used to treat diarrhoea in humans

**Mode of Preparation and Application:** The roots are uprooted, washed, mixed with water and boiled to treat diarrhoea in humans



**Family Name:** Vitacea  
**Common Name:** Round-lived vine  
**Scientific Name:** *Cissus rotundifolia*  
**Description:** climbing tendrillate shrub; stem mostly hairless, smooth in early stage, later 4-5 angled with corky wings; leaves fleshy, circular, folded upwards along midrib where they easily split, margin toothed; flowering umbels about 15mm diameter, ripe berries red, to 15mm long, ovoid.  
**Local Name:** Lorowo

**Common Uses:** Livestock fodder especially during dry season, human medicine; roots used to treat amoeba  
**Mode of Preparation and Application:** Boiled root decoction drunk for the treatment of amoeba



**Family Name:** Crassulaceae  
**Scientific Name:** *Kalanchoe lanceolata*  
**Description:** An erect, glandular-hairy annual to nearly 1m, with almost hairless, obovate to oblong, entire or toothed leaves; flowers yellow to orange-red, about 10mm long, in a dense terminal corymb; sepals 2-5mm broad; petal tube inflated.  
**Local Name:** Kuuserwe ne mining

**Common Uses:** serve as a remedy for joint dislocation  
**Mode of Preparation and Application:** The leaf is warmed on fire and used to tie the joints, it is changed occasionally.



**Family Name:** Passifloraceae  
**Scientific Name:** *Adenia venenata*  
**Description:** Creeper or climber 1-6m, from a bottle-shaped swollen lower trunk with many branches arising from its top. Leaves 3-5-lobed, base cordate, apex rounded, 1.5-12 by 1.5-13cm, 5-nerved from base. Flowers cream (reddish?), in shortly (-1.5cm) stalked cymes; flowers 15-24(female) or 30-56(male) mm long. Fruit ovoid –ellipsoid, with more or less acute apex, 2-4.5 by 1.5-3cm.  
**Local Name:** Sotob leken

**Common Uses:** Used to remove a retained placenta in cow  
**Mode of Preparation and Application:** the bark is boiled and the decoction drunk by the cow

	<p><b>Family Name:</b> Asparagaceae  <b>Common Name:</b> Snake plant  <b>Scientific Name:</b> <i>Sansevieria raffilli</i>  <b>Description:</b> A rhizomatous herb with 2-3 erect, strap-shaped leaves with red brown edges, with transverse banding, often fading with age, 70-150×6-12cm, inflorescence unbranched, 90-115cm long, flowers greenish-white, perianth tube 25-28mm, lobes 28-29mm long.  <b>Local Name:</b> Cheera</p>
<p><b>Common Uses:</b> The plant is used for the treatment of gum inflammation in babies' mouths.  <b>Mode of Preparation and preparation:</b> Roots are roasted and rubbed on the affected gum.</p>	
	<p><b>Family Name:</b> Cactaceae  <b>Common Name:</b> Spineless prickly pear cactus  <b>Scientific Name:</b> <i>Opuntia ficus-indica</i>  <b>Description:</b> A succulent shrub to 2.5m tall with flattened, few short weak spines on the flattened stem, Fruits often with 15mm long spines on the bristle tufts. Flowers yellow, to 10cm long; fruits without spines.  <b>Local Name:</b> Matundiande</p>
<p><b>Common Uses:</b> fodder, ornamental  <b>Mode of Preparation and preparation:</b> The leaves are warmed on fire to remove the spines and then given to cows to increase lactation during the dry season.</p>	
	<p><b>Family Name:</b> Asparagaceae  <b>Common Name:</b> Sisal hemp  <b>Scientific Name:</b> <i>Agave sisalana</i>  <b>Description:</b> A perennial up to 1m, leaves form a rosette of sword-shaped grey/green leaves each ending in a sharp spine. Inflorescence yellow, borne after about 6 years on a central flower stalk up to 6m high, flowers in dense clusters on short branches arising from the stalk. As the flowers wither buds in the axils develop into small plants which fall to the ground and take root. The mature plant dies after flowering.  <b>Local Name:</b> mokongiante</p>
<p><b>Common Uses:</b> The leaves used in craftwork (Making ropes mats &amp; baskets) and the flower stalk is used for construction</p>	



**Family Name:** Cactaceae  
**Common Name:** Prickly pear cactus  
**Scientific Name:** *Opuntia vulgaris*  
**Description:** A succulent shrub to 2.5m tall with flattened, jointed stem, hairless except for the tuft of bristles at the base of the spines; flowers yellow, to 10cm long; fruits without spines.  
**Local Name:** Kaktas

**Common Uses:** used as edge plant and its fruits are edible. The fruits increases the amount of iron in the blood



**Family Name:** Asparagaceae  
**Common Name:** Cylindrical snake plant  
**Scientific Name:** *Sansevieria robusta*  
**Description:** An erect rhizomatous herb with distinct stem to 1m; leaves stiff, ribbed or V- shaped in section, usually light green and not variegated, in 2 ranks on a short erect shoot, flowers up to 15mm long in a much-branched panicle  
**Local Name:** Kilembelye

**Common Uses:** used in constructing huts and it treats Gonorrhoea  
**Mode of Preparation and Application:** Roots boiled and the decoction drunk



**Family Name:** Crassulaceae  
**Scientific Name:** *Kalanchoe mitejea*  
**Description:** A robust succulent to 1.8m; leaves ovate, notched at base, stalked not peltate, mottled purple below; flowers pale yellow or greenish, petal tube inflated below, 4-angled above, to 23mm long.  
**Local Name:** Kurserwe neo

**Common Uses:** Medicinal; the leaves are used to treat sourness and inflammation of the skin (poultice).  
**Mode of Preparation and application:** To cure a bruise one leaf is warmed up on the fire, placed on and wrapped around the bruise. The juice of the leaf will cure the bruise.



**Family Name:** Asteraceae  
**Scientific Name:** Klenia odora  
**Description:** A tortuous- branched bushy hairless shrub to 2m with reduced stem leaves on older stems; young stems bearing short- lived obovate-oblong leaves; heads in umbels, yellow to cream; phyllaries 10-13mm long  
**Local Name:** Kimorurub kibeu

**Common Uses:** the stem is used for eye and head treatment.  
**Mode of Preparation and Application:** Fresh stem is boiled. The patient looks with eyes wide open into the container from where ensues steam from the boiling infusion. The steam is believed to clean the eyes and kill any disease-causing agents.



**Family Name:** Euphorbiaceae  
**Scientific Name:** Euphorbia heterospina  
**Description:** Succulent shrub with long 4-angled stems to 2cm thick, lighter in the central groove; ribs continuously grey-edged; spines divergent, 10mm long at the base grading to tiny at the apex, cyathia yellow or red; capsule as long as its 5mm stalk  
**Local Name:** Helee

**Common Uses:** used to treat skin rashes  
**Mode of Preparation and Application:** fresh roots are boiled and the decoction used as a body wash



**Family Name:** Euphorbiaceae  
**Scientific Name:** *Euphorbia magnicapsula*  
**Description:** Tree 4.5-12m. branches succulent, 3-4 winged, segmented, to 12cm wide; spine shields continuous; spines 0.3-1.5cm. Leaves deciduous (not seen). Flowers yellow in short cymes. Fruits not seen  
**Local Name:** Mutakarie

**Common Uses:** Firewood, bee forage, dry branches used to provide light, Roots boiled to treat skin diseases and sexually transmitted diseases  
**Mode of Preparation and Application:** the roots are boiled and the decoction drunk three times a day.



**Family Name:** Crassulaceae  
**Scientific Name:** *Kalanchoe glaucescens*  
**Description:** A hairless perennial, trailing at base but with erect stems; leaves obovate to ovate-elliptic, stalked; flowers orange to yellow, in small terminal corymbs; sepals fleshy; petals tube to 15mm long.  
**Local name:** Kuserwe

**Common Uses:** used to treat stomach problems  
**Mode of Preparation and Application:** Burned ashes of the plant is licked for treatment of stomach-ache



**Family Name:** Euphorbiaceae  
**Scientific Name:** *Euphorbia tirucali*  
**Description:** Shrub or tree 3-6m. Branches succulent, cylindrical, unarmed, leaves to 6mm long, on young growth only. Flowers cream or yellow-green, in short terminal clusters. Fruits 3-lobed, to 6mm across.  
**Local Name:** Koromotwe

**Common Uses:** treatment for sore throat and stomach-ache  
 -Serve as emetic in cases of snake bites  
 - The milky exudate Used as a medicine for cuts or fresh wounds.  
**Mode of preparation and Application:** young branches can be roasted and chewed, the juice acting as remedy for sore throat and stomach complaints.

**Establishment of a community succulent plants nursery**

The established community succulent plants nursery is helping in conservation of the genetic pool of the native succulent plants of Bogoria region and promotion of sustainable use of these plants. 0.5 acres of land was donated by Chelaba women to be used for raising the seedlings of native plants including the succulent plants. The locals are motivated to grow the succulent plants around their homes and farms to reduce the pressure on the naturally occurring ones.



Figure 1: Chelaba Women Community Based Organization receiving the nursery Equipment at their office



Figure 2: Established succulent plants nursery



Figure 3: Focused group discussion. Figure 4: Awareness creation on the succulent plants of Bogoria