

THE GINGERS ('Awapuhis) and related TUMERIC ('Olena)

I. Common name: Native ginger, or "shampoo" ginger, or wild ginger

Hawaiian name: 'awapuhi, or 'awapuhi kuahiwi, or 'opuhi

Scientific name: Zingiber zerumbet

Origin: India

Distribution: From India, eastward through Polynesia

Status in Hawaii: Called "native" of Hawaii; probably brought in by early settlers

Habitat: Lower parts of open, damp forests; here, forms continuous ground cover.

Description of plant: (also see illustration)

Vegetative plant: Consists of thick, prostrate rootstock (rhizome), from which rises upright stem or stalk, 1-3 feet high, which bears about dozen leaves, arranged in two vertical rows, alternately.

Flowering plant: Toward late summer, flowering stem or stalk arises directly from rootstock; this stalk is shorter than leaf stalk, being about one foot high. It terminates in a club-shaped flower head or cluster (inflorescence). This flower head is about 2 or 3 inches long. It is conical or club shaped, with green, suffused with red overlapping, closely appressed bracts, each of which subtends individual small, inconspicuous, yellowish flower. Usually, only one or two flowers open at one time (for one day), beginning at base of flower head, and progressing to the head apex. Flower head saturated with sudsy, slimy liquid or juice, secreted from glands, located within bracts.

Underground stem or rhizome: Large, branched, knobby, and aromatic.

Leaves: 4-8 inches long and 2-3 inches wide; thin; smooth on upper surface, more or less hairy on under side.

Culture: Hawaiians did not cultivate this plant as it grew luxuriantly in wild state in forests and spread easily and rapidly by means of its rootstock or rhizome. It can be propagated by means of piece of rootstock having buds. Seeds form and can be planted.

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Gingers (con.)

Uses:

1. Underground stem was dried and powdered, and used to perfume their tapa, by Hawaiians
2. Sudsy juice from flower head used as shampoo by Hawaiians. Flower heads were squeezed over hair to liberate fluid in preparation for shampoo. This liquid was not washed out of hair but allowed to dry there.
3. Sudsy juice from flower head sometimes used to quench thirst on a journey.
4. Stalks with leaves placed in imu to flavor cooking pig

II. Common name: Edible ginger, or "plain" or "common" ginger

Hawaiian name: 'awapuhi pake (because this ginger was brought in and used so much by Chinese)

Scientific name: Zingiber officinale

Origin: Probably southeastern Asia

Distribution: Introduced into and cultivated in all tropical countries

Status in Hawaii: Introduced late, after coming of foreigner; should be considered plant of "old Hawaii"

Habitat in Hawaii: Grown only under cultivation, in lowlands

Description of plant: Stands 2-4 feet high, with leaves -- smooth, long and narrow -- on one stalk, and flower head on separate stalk. Flower bracts light green, and flowers yellow-green and purple -- small and not showy. Tuberos, underground stems multiply by division into palmate shapes. "Flesh" of tuberous stems is greenish yellow in color.

Culture: Planting material consists of portions of rhizomes which contain several viable buds from which the stems emerge. Soil should be well-tilled. Ten months after planting, leaves begin to wither and rhizomes are ready to harvest (although some rhizomes can be harvested 5 months after planting). An acre of planted ginger can yield as much as 1,500 pounds of cured ginger.

- Uses:
1. Medicine: especially for indigestion and fever; stimulant
 2. Food: dried and ground for spice (most valuable root spice known); drink (ginger ale); preserved (confection)

Gingers (con.)

III. Ornamental gingers

A. Common name: Yellow or cream ginger

Hawaiian name: 'awapuhi meleleme

Scientific name: Hedychium flavescens syn. Hedychium flavum

Origin: India

Distribution: Tropics; will grow in milder areas of Temperate Zone if in sheltered spot

Status in Hawaii: Brought to Hawaii as ornamental plant about 1880; escaped cultivation and now grows wild

Habitat: Moist lowlands; lower boundries of rain forests; also cultivated in gardens

Description of plant: Plant stands 3 or more feet high. Flowers and leaves borne on same stem, the former at apex of stem. Leaves smooth, oblong in shape, and lighter green on underside. Dimensions 4 x 1 inch to 22 x 4 inches. No leaf stem (petiole), but leaf sheath which clasps stem, and has large ligule (projection) at tip of sheath. Leaves alternate in two rows along stem.

Flowers borne in "spike" (oval flower head), 2-5 inches long, having many broad, green, overlapping bracts, in two or more spiral rows. Each bract subtends 3-5 flowers which bloom over a considerable period of time. All parts of flower are yellow. Flower consists of 1-1/2 inch-long tubular calyx, concealed by bract; corolla tube is 3 inches long, with three long, narrow petals. Conspicuous parts of flower are pair of petal-like sterile stamens (called staminodes), and a broad lip, notched at top and having light orange, heart-shaped spot in its center. Flowers can be as much as 3 inches across. Seeds rarely form.

Culture: Propagated by means of rhizome sections, with viable buds. Should be planted shallowly, in loose soil, in moist (or frequently irrigated), semi-shady areas. Grows wild, having escaped cultivation, in open areas in lower native forests, and along roads and paths.

Uses: Primarily used for leis, strung or woven in various ways.

B. Common name: White ginger, butterfly lily, ginger lily, or garland or lei flower

Gingers (con.)

III. Ornamental gingers (con.)

B. (con.)

Hawaiian name: 'awapuhi ke'oke'o

Scientific name: Hedychium coronarium

Origin: India

Distribution: Warm countries, i.e., tropics

Status in Hawaii: Brought to Hawaii as ornamental plant about 1880; escaped cultivation and grows wild now in many areas

Habitat: Moist and semi-shaded lowlands; lower boundaries of rain forests and forest reserves; also cultivated in gardens.

Description of plant: Description of white ginger plant similar to that of yellow ginger except:
Two to 3 flowers to each bract
Individual flowers larger, i.e., lip and staminodes
Flowers pure white except that lip bears pale, greenish, heart-shaped spot.
More highly perfumed

Culture: Same as for yellow ginger

- Uses:
1. Leis
2. Commercial perfume

Various other ornamental gingers; common and Hawaiian names given below:

<u>Common name</u>	<u>Hawaiian name</u>	<u>Scientific name</u>
C. Red ginger	'awapuhi 'ula'ula	<u>Alpinia purpurata</u>
D. Shell or porcelain ginger	'awapuhi luheluhe	<u>Alpinia speciosa</u> syn. <u>Alpinia nutans</u>
E. Kahili ginger	'awapuhi kahili	<u>Hedychium gardnerianum</u>
F. Torch ginger	'awapuhi ko'oko'o	<u>Phaeomeria magnifica</u>

IV. Common name: Tumeric

Hawaiian name: 'olena

Scientific name: Curcuma domestica syn. Curcuma longa

Origin: Unknown

Gingers (con.)

IV. Tumeric ('olena)

Distribution: Tropical Asia, and through Polynesia

Status in Hawaii: Probably brought by very early settlers

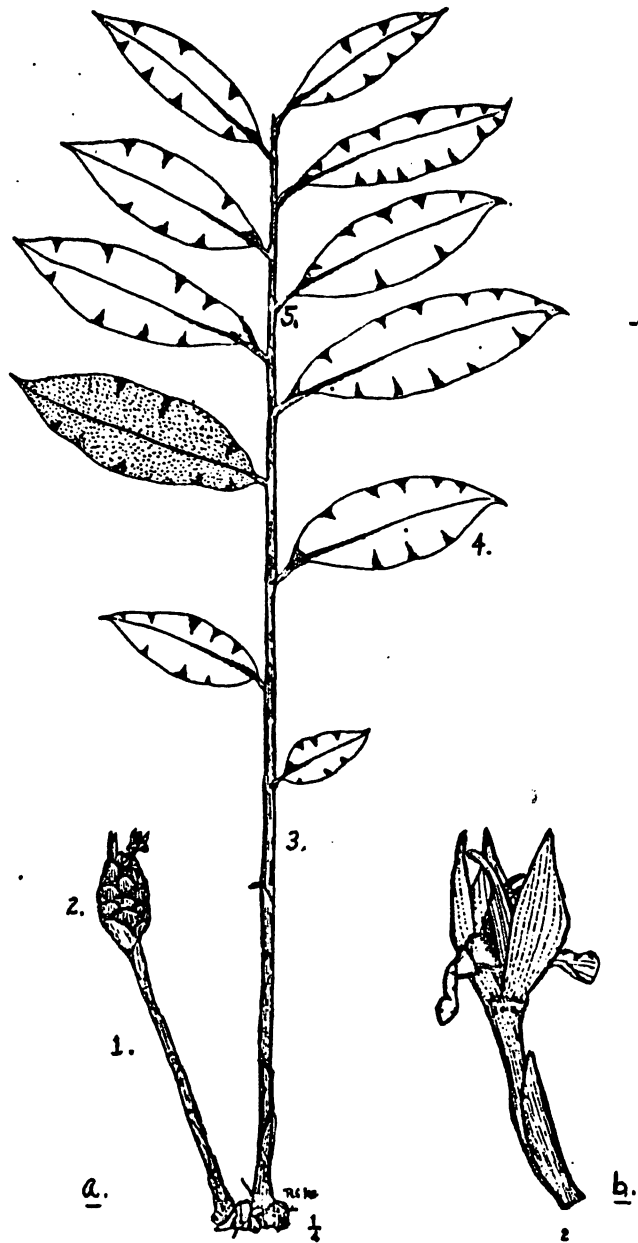
Habitat: In Hawaii grew wild in damp, forested valleys. Reported to grow in other tropical areas in hot and moist climates, up to an altitude of 3,000 feet. In some countries, cultivated in partial shade.

Description of plant: Plant is stemless, with several leaves rising in a cluster 20 or more inches, directly from thick underground stems (rhizomes). Leaves come up in spring and die back in fall. Overlapping leaf stems (petioles), 8 inches long or more, form a false stem, and bear light green, thin blades 8 x 3 inches or larger. Inflorescence (flower cluster) is cylindrical, about 5 inches long, and develops in center of leaves. Flower head (inflorescence) consists of large, pale green, pouch-like, curved bracts, each with two or more pale yellow flowers, except in upper part where bracts are pink and there are no flowers. Seeds form only rarely.

Culture: Grew wild in Hawaii; was not cultivated. Elsewhere, in tropical areas such as India, etc., this plant is widely cultivated because of its use as spice and dye in some foods, such as in curry powder, and dye for cloth. Propagated by rhizomes, or division of plant; requires open, friable soil, and partial shade.

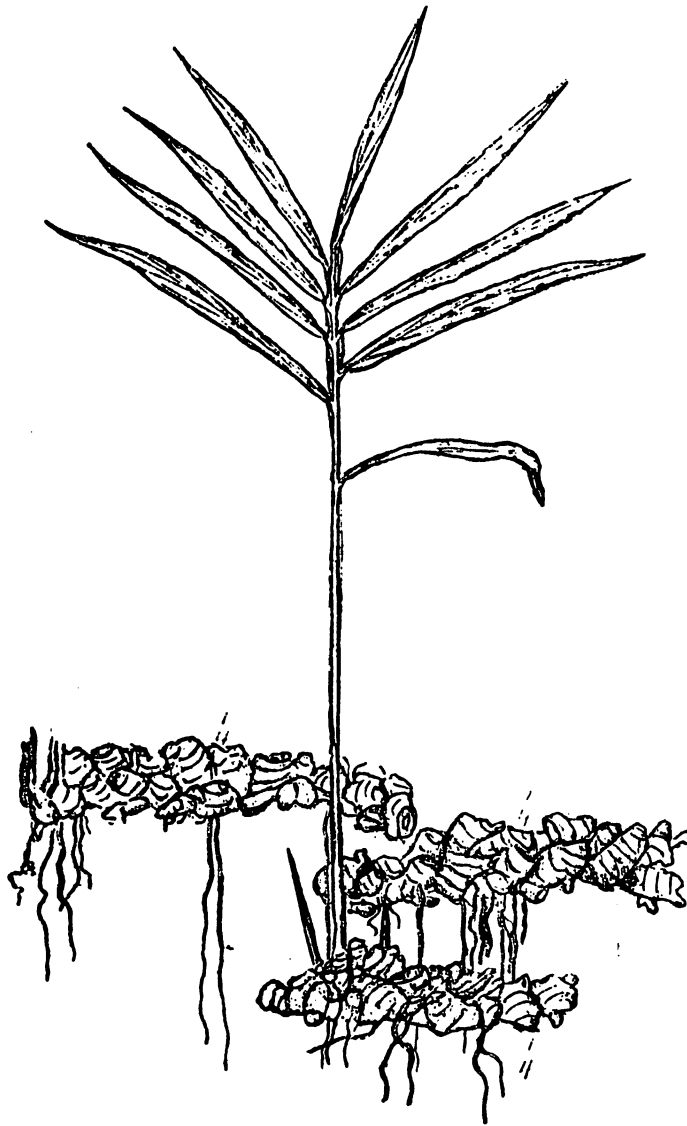
Uses in Hawaii:

1. Used ceremonially to purify objects, things, places, and people. Small piece of root was crushed and mixed with sea water, and sprinkled on the above to drive out evil influences from objects, things, and places -- or evil spirits from people who became ill as a result of being "inhabited" by evil spirits. Hawaiian word for above ceremony is kuehu; literally shake out, or drive out.
2. Used medicinally as cure for tuberculosis (ma'i-'ai-ake) and earache (pepeiao-'eha)
 - a. For tuberculosis, the root was steamed in an imu, chewed, and swallowed.
 - b. For an earache, root was mashed raw with stone pounder, and juice squeezed from pounded root dropped slowly into ear
3. Used for dye: young roots yielded light yellow color; older ones, a deep orange or golden color. This dye used for tapa.

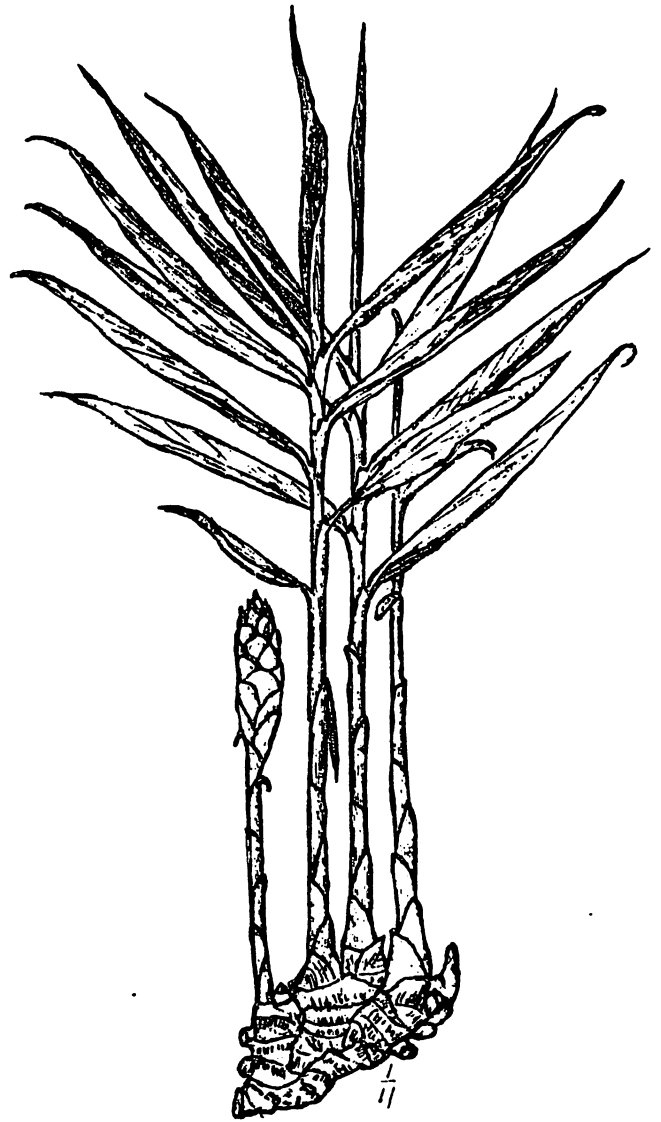


- a. Complete plant, with both leafy stalk and flowering stalk
- 1. Flower stalk
 - 2. Inflorescence or flower cluster
 - 3. Main stalk
 - 4. Leaf
 - 5. Leaf stalk or petiole
- b. Individual flower

EDIBLE GINGER

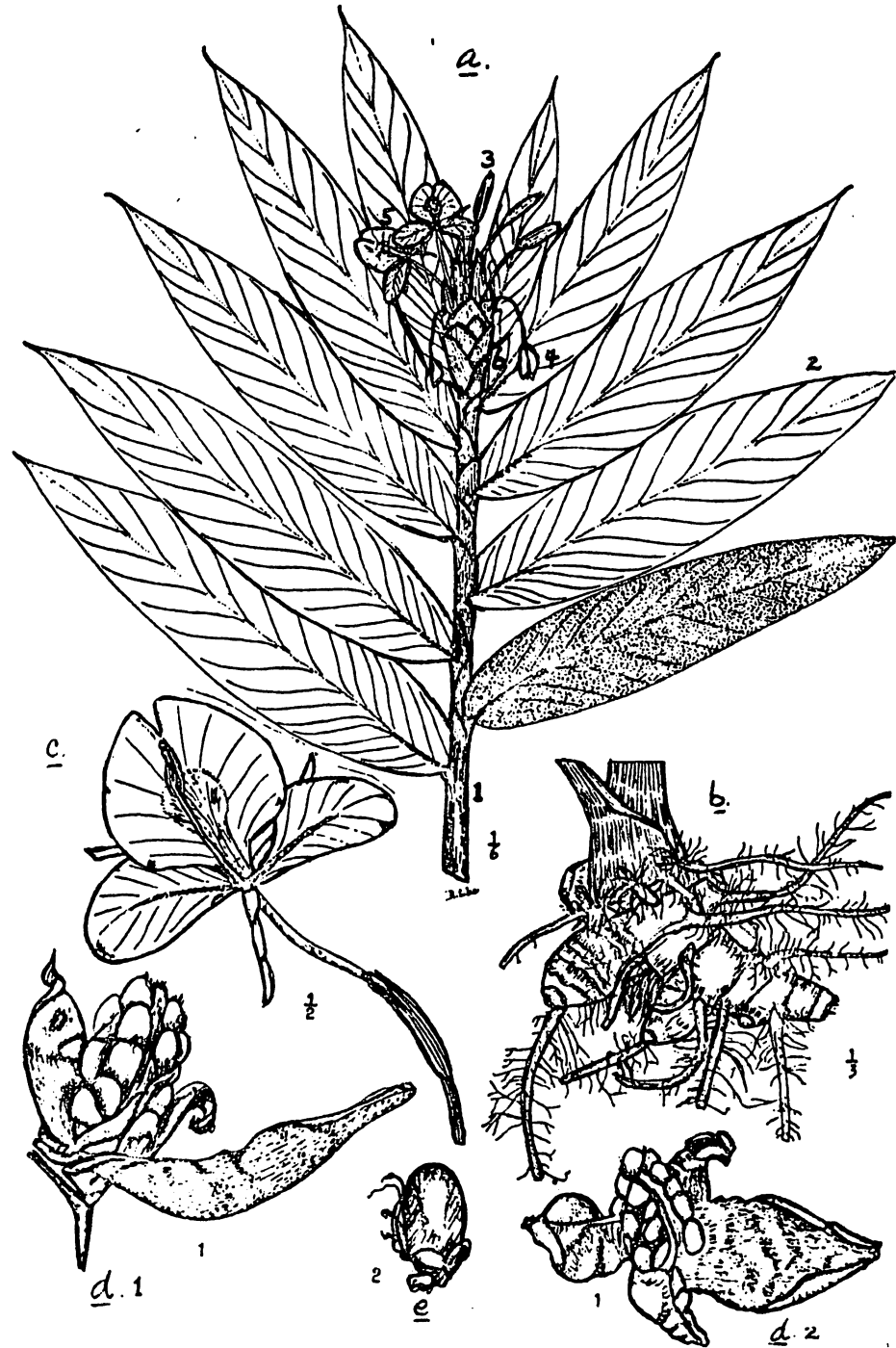


A. Vegetative plant



B. Flowering plant

1. Tuberos, underground stems
(In A, two, unattached such stem are shown)
2. Roots
3. Stalk buds
4. Young stalk
5. Leaf stalks
6. Leaf blades
7. Flower stalk
6. Inflorescence
7. Flower bracts



- Key:
- a. Stalk of ginger: 1, stalk or stem; 2, leaf; 3, flower bud; 4, faded flower; 5, open flower; 6, flower bract
 - b. Rhizome or true stem, with roots
 - c. Individual flower
 - d. Seed capsule, with seeds exposed; (1), side view; (2) from above
 - e. Individual seed

'OLENA (tumeric)



- A. Vegetative stalk
- B. Flowering stalk
- C. New stalk

- 1. Overlapping leaf stem or petiole
- 2. Leaf blade
- 3. Inflorescence with surrounding leaves cut away
 - a. Bract
 - b. Flower