* Who wants to eat a good supper should eat a weed of every kind.

This old Carrarese saying puts the matter in a nutshell, diversity is as important in weeds as it is human beings.

-Patience Gray "Honey from a Weed"

**Why Bitters Matter**

Sweet – nutritious, indicates carbohydrates
Sour – acidic, mild irritant
Salty – minerals
Pungent/Spicy – aromatic, volatile oils, mild irritant
Umami – ‘deliciousness’, meats and some fats
Bitter – challenging, stimulating
  - the most chemically complex flavor
  - part of all other flavors except umami
  - often contain alkaloids

**Why Bitters Matter**

Taste receptors for sweet, salty, sour, pungent and umami activated by:
  - 3 – 5 genes, 1 -3 different subtypes

Bitter receptors (T2R) activated by:
  - 34 genes, 20 subtypes,
  - 100 + chemical compounds

**Why Bitters Matter**

T2R receptors are found throughout the body:

- tongue, throat, stomach, small intestine,
- pancreatic duct, liver, gall bladder,
- airways, lungs and brain

**Why Bitters Matter**

Activates the same hormonal secretions stimulated by a high protein, high fat meal.

Reduces muscular contractions in the GI tract.

Increases the secretion of digestive enzyme and hormones throughout the GI tract.

Stimulates the liver to increase the uptake and storage of sugar from the blood.
Valves between esophagus and stomach, stomach and small intestine close.

Slows the rate at which digestion occurs to prevent rapid increase in blood sugar levels

Increase the release of insulin and insulin sensitivity

Stimulates neurological and immunological tissue in the gut. Increases vagus nerve signalling to the brain.

A study on the effects of regular consumption of bitters showed an increased secretion of hormones (peptides) that reduced overall consumption at meals in healthy and obese individuals by one-third.

"Could current epidemic levels of insulin resistance, Type 2 diabetes, and obesity be due to lack of bitters in the diet?"

- Guido Mase, The Wild Plant Solution

“Herbalists have long known about the subtle psychological effects of bitter remedies. They may even have antidepressant actions in some cases…”

David Hoffmann, Medical Herbalism

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Gentian

*Gentiana lutea*  *Gentiana saponaria*

Wormwood

*Artemisia absinthium*
Digestive Bitters

A blend of herbs and aromatics in brandy, usually with some honey or a sweet-tasting herb, like licorice.

Take 1 teaspoon in a small amount of water before meals.

Indefinite shelf-life.

Guidelines for making digestive bitters:
3 parts bitter herbs – dandelion root, gentian, boneset, artichoke leaves

1 part aromatics – orange or grapefruit peel, kumquats, with cardamom, fennel, star anise, ginger, coriander, caraway, etc.

Put in a jar, cover with good quality brandy, cover. Let mixture steep in a cool, dark place for 1 month, shaking occasionally. Strain and discard spent herbs and aromatics. Add a small amount of warmed honey. Stir to dissolve. Take ½ teaspoon before meals.

Commercial Bitters

Angostura (1824)
Peychaud (1830)
Fernet-Branca (1845)
Campari (1860)
Averna (1868)
Moxie (1876)
Cynar (1952)

Wild Bitter Greens

Dandelion

*Taraxacum officinale*
Green coneflower or Sochian
*Rudbeckia lacinata*

Creasy Greens or Upland Cress
*Barbarea verna*

Oxeye Daisy
*Leucanthemum vulgare*

Sow Thistle
*Sonchus arvensis*

Sow thistle

Sow thistle rosettes
Yarrow
*Achillea millefolium*

Chicory
*Cichorium intybus*

Cultivated Bitter Greens

Cultivated Chicory
*Cichorium intybus*, ETC.

- Radicchio
  - Chioggia, Verona, Castelfranco, Treviso
- Endive
- Belgian Endive
- Escarole

Belgian Endive and Endive
*Cichorium intybus*
Radicchio Treviso
most bitter, root is also eaten

Radicchio Chioggia
most common

Escarole
Cichorium spp.

Curly Endive
*Cichorium endivia*

Puntarella
*Cichorium spp.*

Catalogna chicories

My favorites

The Wild Plant Solution: Healing with Aromatic, Bitter and Tonic
Plants by Guido Mase

*Bitter: A Taste of the World’s Most Dangerous Flavor, with
Recipes* by Jennifer McLagan

Honey from a Weed by Patience Gray

Blogs
Wild Greens and Sardines
Aglaia’s Table