TOP 10 SELLERS 2015 (SMITH 2016)

1. Horehound (*Marrubium vulgare*)
2. Cranberry (*Vaccinium macrocarpon*)
3. Echinacea (*Echinacea spp.*)
4. Garcinia cambogia (*Garcinia gummi-gutta*)
5. Green tea (*Camellia sinensis*)
6. Black cohosh (*Actaea racemosa*)
7. Flax or flaxseed oil (*Linum usitatissimum*)
8. Ginger (*Zingiber officinale*)
9. Valerian (*Valeriana officinalis*)
10. Bioflavonoid complex

11. Green coffee (*Coffea arabica*)
12. Yohimbe (*Pausinystalia johimbe*)
13. Ivy leaf (*Hedera helix*)
14. Aloe vera (*Aloe vera*)
15. Saw palmetto (*Serenoa repens*)
16. Milk thistle (*Silybum marianum*)
17. Garlic (*Allium sativum*)
18. Plant sterols
19. Turmeric (*Curcuma longa*)
20. Cinnamon (*Cinnamomum spp.*)
WHERE DO THE HERBS GO?

- Fads
  - Research-driven rise of exotic herbs
- Globalization of herbal access
- Disconnect from nature/sourcing not transparent
- Loss of knowledge, loss of elders, herbal dark ages (1930s-1950s)
- Failure to do our own research
  - Ridiculous fear-driven panics based on isolated constituents

FOREST AND TREES
HERBAL INFO MONOCROPS

- Books repeating books repeating books without any original citation
- Where is the updating from actual clinical experience or research?
- Telephone game result: information gets more and more distorted over time, less and less useful

LACK OF INFORMATION ≠ INEFFECTIVE

- Problem with “evidence-based medicine” is reliance only on clinical trial evidence
- There is no real history to base conventional treatment on so this is discount
- Herbal historical use is valuable but only if the information is good quality
NATIVE AMERICANS

<table>
<thead>
<tr>
<th>AUTONYM</th>
<th>EXONYM</th>
<th>NATIVE TERRITORY</th>
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</thead>
<tbody>
<tr>
<td>ANISHINAABEG</td>
<td>Ojibwe, Chippewa</td>
<td>Northern Great Lakes region</td>
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<td>(ᐊᓂᔑᓈᐯᒃ) ININI</td>
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<tr>
<td>TSALAGI (CWY), ANI-</td>
<td>Cherokee</td>
<td>southern Appalachia</td>
</tr>
<tr>
<td>YUNWIYA (Dhökë)</td>
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<tr>
<td>CHAHTA</td>
<td>Choctaw</td>
<td>Alabama, Florida, Mississippi, Louisiana</td>
</tr>
<tr>
<td>LENAPE, LENI LENAPE</td>
<td>Delaware</td>
<td>NJ, southern NY, western PA, northern MD</td>
</tr>
</tbody>
</table>

MORELLA CERIFERA (SOUTHERN WAX MYRTLE)

- Myricaceae
- Formerly *Myrica cerifera*
- Dioecious
- Root bark part used, but wax from fruit also
- Leaves: alternative to bay leaves in cooking
NATIVE NAMES

- Chahta: kolaha
- Koasati (Coushatta): ittoikillo

NATIVE RANGE

Image by Strongbad1982, used under CC3.0 license
INTERESTING ACTIONS

- Tannins → Astringent
- LMWT → Aromatic
- Triterpenoids → Multiple

Unusual combination

INDICATIONS

- Periodontal disease in general
- Sore throat with swollen tonsils, ulcers
- “Relaxed, flabby tissues with hypersection” (GI stimulant + astringent), as sometimes occurs in chronic diarrhea, chronic gastritis (not so good in acute situations)
- Thomsonian medicine: very heating
RELATED SPECIES

- *Morella pensylvanica* (northern wax myrtle): NE Canada/USA
- *Myrica gale* (bog myrtle, sweetgale): holarctic distribution
- *Morella faya* (firetree, faya): Azores, Madeira, Canary Islands
- *Morella rubra* (楊梅, *yamamomo* ヤマモモ): China

MYRICA CANDLES

http://the3foragers.blogspot.com/2014/08/making-bayberry-candles.html
http://designskool.net/cape-cod-traditions-on-gardenista-this-week/
**SASSAFRAS ALBIDUM**
(SASSAFRAS)

- Lauraceae; bark or root bark used

- Native names:
  - Tsalagi: ЅᏒᏔᏏᏂ (ganasdatsi) and other similar variants
  - Chahta: itį kافي
  - Leni Lenape: winakw
  - Anishinaabe: maanaagwaakwamizh

**NATIVE RANGE**

- Can grow outside this range (e.g. in Washington)
ACTIONS AND USES

- Topical oil: for pain relief in rheumatic conditions
- Topical infusion: for poison ivy dermatitis
- Oral infusion or oil: dysmenorrhea, cystitis
- Flavor!

TERPENOIDS

ALTERATIVE, DIAPHORETIC, ANALGESIC

RECENT RESEARCH

- *S. albidum* bark highly active against leishmaniasis (Pulivarthi 2015)
- *S. randaiense* stem lignans inhibit iNOS (Hou 2015)
- *S. tzumu* bark lignans inhibit acetylcholinesterase (Lu 2017)
SAFROLE

- Role in plant: pesticidal
- Amount in plant: small
- Problem: extrapolation from pure safrole in high doses in rodents (carcinogenic) to crude extracts in humans in low doses (no such evidence) is highly dubious
- Note: new problem is use for synthesis of MDMA, but extracting safrole from sassafras isn’t trivial, unlikely to be a problem from crude extracts

CHIONANTHUS VIRGINICUS (FRINGETREE)

- Oleaceae
- Chahta: hattak sipokni jnutakhish (“old man’s beard”)
NATIVE RANGE

ACTIONS

- Secoiridoids: Bitter, hepatic effects
- Lignans: Inflammation modulator?
- Saponins: Inflammation modulator?

{ Alterative? }
DR. IJM GOSS’ LIST
(AS RELATED IN SCUDDER 1870)

- Alterative, bitter, with liver affinity
- For hepatomegaly, esp. due to malaria
- For jaundice (acute or chronic)
- Not useful for biliary duct obstruction
- Recipe for tincture of bark of root: 2 oz in 1 quart gin
- Dose: 0.5 oz q3h of this tincture or 1–2 drachms (1/8–1/4 oz) fluid extract q3h

FRAXINUS AMERICANA
(WHITE ASH)

- Oleaceae
- Native names
  - Chahta: shinap
  - Tsalagi: dSZo (tsuganov)
  - Lenape: mixakanakw
  - Anishinaabe: baapaagimaak

F. pennsylvanica photo (c) 2017 E. Yarnell
NATIVE RANGE

Lower terpenoids levels in American Fraxinus spp make them more susceptible to this pest (Pureswaran 2009).

OTHER SPECIES

- **F. pennsylvanica** (green ash, red ash): eastern North America
- **F. nigra** (black ash): northeastern North America
- **F. excelsior** (European ash): widespread throughout Europe; seed extract anti diabetic in clinical trial (Zulet 2014)
- **F. ornus** (manna ash): Mediterranean, Balkans, southwestern Asia; leaf decoction used for arthritis and gout in Italy (Guarrera 2005)
FRAXINUS AND FIBROIDS

- Learned this from Silena Heron, ND (1946–2005)
- This is mentioned by Felter (1922) but he questions its efficacy, but does support use for “pelvic heaviness and dragging pain”
- Mechanism of action unknown

HEPATIC/GB TONIC

“Both the black and white ash deserve study. The first, for its influence in skin diseases, especially of an herpetic character, and as a general alterative. The second, to improve secretion, and for its influence upon the chylopoietic viscera.”
—Scudder 1870

_F. rhynchosphylla_ (qín pí 秦皮)
hepatoprotective, antifibrotic in liver
(Guo 2017; Peng 2010)
RESEARCH FINDINGS

**Coumarins**

- **fraxetin**

**COU**

**XO inhibitor**

Chang 1996

Crude extracts antimalarial (Aydin-Schmidt 2010)

- *F. ornus* anti-hyperglycemic, antimicrobial, inflam mod, anti-inflammatory

Various Asian species protect substantia nigra (Li 2013)

- *F. excelsior* anti-hypertensive, diuretic (Eddouks 2005)

Inflammation modulating (El-Ghazaly 1992)

**Seoiridoids**

- Bitter, hepatic effects

General ref:

Kostova 2007

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**CHELONE GLABRA**

(BALMONY)

- Plantaginaceae

- Tsalagi: DØ SΛAT (ahwi gahnggoi, “deer tongue”)

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Photo (c) 2017 E. Yarnell
NATIVE RANGE

ACTIONS AND INDICATIONS

- Bitter, hepatoprotective
- Gastrointestinal debility, dyspepsia
- Jaundice
- Felter 1922
POLYMNIA UVEDALIA
(BEAR’S FOOT)

- Asteraceae
- Now called Smallanthus uvedalia

SO LIKE CEANOTHUS

- “According to Dr. Pruitt, it may be considered a specific in splenic enlargement from malarial influence…”
- “Prof. J. M. Scudder, MD has used it with good effect in chronic gastritis, chronic hepatic enlargement…according to him the indications for its use are full, flabby, sallow tissues, impaired circulation, atonic impairment of function, and glandular enlargement”
- Felter 1898
RESEARCH FINDINGS

- *P. uvedalia* sesquiterpene lactones, notably parthenolide, inflammation modulating (Feltenstein 2004)
- Enhydrin α-glucosidase inhibitor thus hypoglycemic (Serra-Barcellona 2017)
- *P. maculata = S. maculatus*, Central American/Mexican species, inflammation modulating (Bork 1997)
- *S. sonchifolius* (yacon) root is a common food in Central America, shows antidiabetic, antimicrobial, bitter, many other actions

FOUQUIERIA SPLENDENS (OCOTILLO)

- Fouquieriaceae
- Native names:
  - Tohono O’odham: melhog
  - Hualapai: igamye
ACTIONS AND USES

- Pelvic lymphagogue
- Really seems to get “stuck” chronic problems moving
- Helps remove cysts and benign growths
- Drives formulas to the pelvis?
- Based on Michael Moore’s work, Silena Heron, ND’s clinical experience, and my clinical experience

UP FROM OBSCURITY

- Though pretty obscure it has become one of the most recognizable Sonoran desert plants in use
- Threatened by development in AZ, where its harvest is restricted
- What other regional delights like this languish in obscurity now?
**ASARUM CANADENSIS**
(WILD GINGER)

- Aristolochiaceae family
- Native to understory of forests across North America

**ACTIONS**

- Terpenoids
- Aromatic bitter
- Antimicrobial
- Diaphoretic

(Cavallito 1946)
RESEARCH FINDINGS

- *A. sieboldi* (細辛)
  - Inflammation modulator in rats with RA (Zhang 2014)
  - Volatile oil kills dust mites (Wu 2012)
  - In formula, anti-Coxsackievirus including nephroprotective (Yen 2014)

ARISTOLOCHIC ACID?

- Carcinogenic, nephrotoxic
- One study found highly variable amounts of AAI present in *A. canadense and A. caudatum* (Schaneberg 2002)
- Same group failed to find any AA in six commercial products with wild ginger (Schaneberg 2004)
- FDA analysis of Heron’s tincture found no AA
**DICENTRA FORMOSA**  
(PACIFIC BLEEDING HEART)

- Papaveraceae

- Ichishkiín Sínwit (Sahaptin, Yakama) name: xwoixwoí’as; tumla’ tumla’ (“little hearts”)

- Forgotten cancer remedy

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**DIGITALIS PURPUREA**  
(FOXGLOVE)

- Scrophulariaceae

- Classic example of expropriation
WUTHERING AND THE SHROPSHIRE WOMAN

- 1785: William Wuthering published his account on digitalis for dropsy
- An early transition to herbs as drugs
- He credits a woman for teaching him about the herb but never names her or really gives her credit

ACTIONS AND INDICATIONS

- Positive inotropic, negative chronotropic
- Congestive heart failure (see next slide)
- Atrial fibrillation: prevent propagation into the ventricles
DIGOXIN IN CHF

- Low-dose digoxin (0.125 mg/d or less) leading to low serum levels (0.5–0.9 ng/ml) is much safer and reduces mortality, hospitalization, improves symptoms in CHF (Ahmed 2006)

- At higher levels, it only reduces hospitalizations and doesn’t reduce mortality

- Serum digoxin danger level: >2 ng/ml

EGGERTHELLA LENTA

- Well established that some people don’t get benefit from digoxin due to this inactivation (Haiser 2014).

*E. lenta* is only species known to make this conversion (Saha 1983)
**PEDICULARIS SPP (LOUSEWORT)**

- Orobanchaceae
- Hemiparasitic: watch where you harvest
- Medicinal species:
  - *P. bracteosa*
  - *P. racemosa*
  - *P. groenlandica*

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**ACTIONS AND INDICATIONS**

- Skeletal muscle relaxant
- Pelvic anodyne/analgesic
- Nervine, anxiolytic
- “Kava of the Continent” (same actions except no topical anesthetic effects, taste is much better)
REFERENCES


