

Sex, Smell and Pheromones - the science of attraction and botanicals for romance

WHC
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Mindy Green



Overview

- The limbic system, olfaction, odor perception
- Odor as a communication system in plants, animals and humans
- Scent's link to immunity
- Pheromones, sweat, other sexy secretions
- Gender differences, sexual orientation
- Aphrodisiac blends
- Scent, reproduction and bonding
- Herbal therapies for women
- *Overall disclaimer*

Oxford University Press
Integrative Medicine Library
Andrew Weil, M.D., Editor-in-Chief

Integrative Sexual Health

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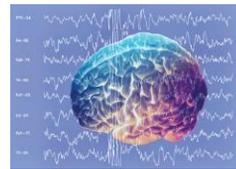
Sections and Chapters in *Integrative Sexual Health*
Chapter 21 – Aromatherapy in the Treatment of Sexual Dysfunction and Relationship Problems
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77 reference articles

Publication due Nov, 2017

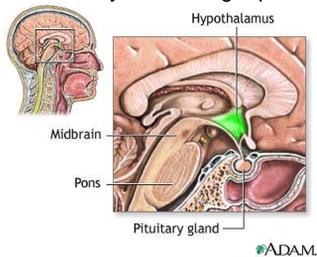
Brain effects

- ODORS CAN CHANGE BRAIN WAVE ACTIVITY: EEG electroencephalogram
- Smelling lavender stimulates Alpha waves (relaxation) back of the brain
- Jasmine stimulates Beta waves (awake and alert) front of the brain

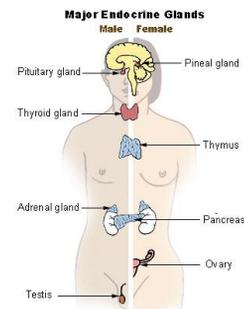


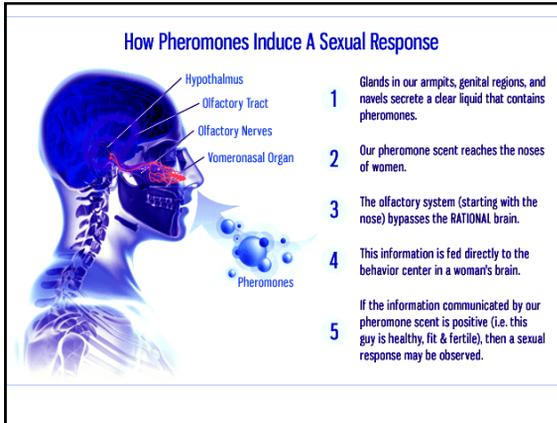
Limbic system / connection to hormonal influences

- Hypothalamus influences the pituitary gland's release of hormones, key to affecting reproductive behavior



Hypothalamus and pituitary form a bridge between the hormone & nervous systems





What are Pheromones?

- The term "pheromone" was introduced 1959, based on the Greek *pherein* (to transport) and *hormon* (to excite/stimulate).
- Scientists believe pheromones are by-products of reproductive hormones.
- Vomeronasal organ (aka Jacobson's organ) was discovered in 1703; may be receptor for pheromones.
 - Affects hypothalamus; considered a vestigial organ in humans.

- Salmon smell their way to their birthplaces to spawn.



Reproduction and scent

- Human Sperm May 'Smell' Their Way To The Egg, Science Study Suggests. *ScienceDaily* (Mar. 28, 2003)
- A new study identifies a novel odorant receptor on human sperm; activating this receptor causes the sperm to make a beeline for the egg.
- A better understanding of the new "smelling" capabilities of human sperm cells may lead to advances in contraception and fertility treatments.
- Sperm become more aggressive in the presence of another man's sperm.



Mother and child reunion

- Mother bats smell a path to their babies.
- Sheep who are sheared lose scent recognition between mama/baby
- If you care for a newborn have an article of mama's clothing close to baby

Paternal in-stinks

UW Madison reports significant decline in testosterone in dads who were exposed to the odor of their new offspring (in primates), showing responsiveness to chemical cues and lowered aggression levels.





Unlike sight and other senses, the human olfactory bulb is fully mature at birth. As soon as two days after birth, a baby can recognize its mother by smell.

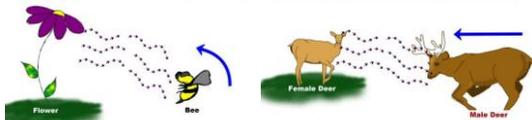
Pregnancy

- Scent crosses the placenta
 - Olfactory neurons develop at 6-7 wks
 - amniotic fluid assumes the odor of garlic within 45 minutes
- Odor memories are being formed in utero



Sexual attractant odors in nature

Pheromones in Plants Pheromones in Animals



Plant sourced aphrodisiacs: jasmine, ylang, lavender, sandalwood, patchouli, nutmeg, rose, ambrette, angelica, oud [musk melon, hyacinth]

Animal sources: civet (cat), musk (deer), castoreum (beaver), ambergris (whale)

Odor Intensity

Skunk odor can be detected at 0.000,000,000,000,071 of an ounce of scent.

Vanillin can be sensed at .0000000002 milligrams per liter of air.

Dogs have about 200 million olfactory receptors, 20 times what humans have.

Odor intensity of essential oils vary.



Odor, sex and food

Provocative thoughts

- Chemicals in chocolate bind to opiate receptors in the brain – can some scents do the same thing?
- The *scent* of coffee is stimulating
- “Clean” smells of nothing
- Personal smell is a sexual advertisement
- Luca Turin comment on perfumes that smell of food: “Vanilla Fields is a low calorie banana float which appeals to the mentally obese.”

- Pheromones are both odiferous and non odiferous chemicals; similar to hormones
- sweat is produced by eccrine glands
- pheromones are manufactured by the apocrine glands (sweat glands which make high-density steroids); activated at puberty - before which, perspiration has no odor.
- Where do these glands occur? Armpits, face, nipples, anal and genital regions
- saliva and vaginal secretions also contain scented information

Pheromones in humans? Biopsychology investigates

- a few well-controlled scientific studies have been published demonstrating this possibility. The best-studied case involves the synchronization of menstrual cycles among women based on unconscious odor cues (70's McClintock effect)
- this study states - there are two types of pheromones involved: "One, produced prior to ovulation, shortens the ovarian cycle, and the second, produced just at ovulation, lengthens the cycle"
- analogous to the Whitten effect - a male pheromone mediated estrus in mice
- urine contains pheromone clues

Nasogenital reflex theory?



Erectile tissue is found in

- Genitals, nipples, *and* ?
- Reports of 'viagra nosebleeds' and 'honeymoon rhinitis' (a stuffy nose and sneezing after sex)

Sweat and pheromones

Smell results from proteins that populate underarms; these are genetically determined and reflect MHC gene profile

- **Sweat glands:**
 - Eccrine: simple sweat, no scent, but emits volatiles
 - Apocrine: active at puberty
 - Apocrine glands make high-density steroids
 - Emit secretions that reflect sexual arousal and fear
 - Androstenone and its derivative androstadienone



NY Times reports on Women and Male Sweat

- Men's sweat smells different when they are sexually aroused; unconsciously detected by women via in brain wave activity
- 'sexual' sweat is distinguished from 'neutral' sweat in different areas of the brain
 - study used heterosexual men and women
- "No man should imagine that based on these conclusions he can improve his sex life by refraining from bathing."
 - Chen. J Neurosci. 2008 Dec 31;28(53):14416-21

more on male sweat...

- researchers at UC Berkeley show that male sweat influences women's hormones
- testosterone derivatives are found in male sweat, saliva and semen
- heterosexual women respond to male sweat w/ increase in cortisol, BP, heart rate, breathing and mood CNN reports on Journal of Neuroscience



Pheromonal effects?

- Androstadienone (from men) boosted the hypothalamic activity in women only
- Estratetraenol (from women) boosted the hypothalamic activity in men only
- Odor is not detected, but brain activity changes
 - According to Ivanka Savic, PhD; Karolinska Inst Sweden, 2001- confirming a 1999 Stanford study
 - McClintock states these are modulators (not releasers) - substances that affect behavior by altering mood, not through fixed responses



Love at first sniff? the building blocks of sex appeal



- Pheromone detection is the proposed reason that a person can sense "chemistry", or feel an instant attraction or dislike when first meeting someone



The Scent of Internet Dating

"If everything fits, you have the same interests, lots to talk about, but you can't stand their smell, then a love affair doesn't stand a chance," explains a biologist.

- Pheromone meet-up
 - Guests sleep in a clean, white, cotton t-shirt for 3 nights to capture their odor print; bring it in a zip lock bag to the party.
 - <http://www.pheromoneparties.com>
- The scent of internet dating
 - Saliva test
 - <https://www.sciencedaily.com/releases/2009/04/090412080748.htm>

Male and female brain differences

- The female brain is smaller, but more densely packed with neurons in areas of cognitive function and language; our center fibers are thicker allowing for more crosstalk between L&R brain
- Ours is wired for expression, not aggression
- We have keener hearing, vision, smell, memory and intuition
- We detect emotions more accurately which active neurons in an area 8x larger than in men's brains'
- Ours shrinks and ages more slowly but we're 3x more likely to get Alzheimer's (low estrogen)

Dianne Hale. The Female Brain. *Ladies Home Journal* 1998 pg 128

Scent perceptions and sexuality

- A region of the hypothalamus is twice as large in straight men as in women or gay men, further supporting the theory that the hypothalamus is organized related to sexual orientation, not gender Simon LeVay 1991.
- Researchers are uncertain if this is the cause or the effect.



Solving gaydar with our noses

- When sniffing underarm sweat from donors of mixed genders and sexual orientation, gay men strongly preferred the odor of other gay men; lesbians liked the scent of other lesbians; straight women rated the odor of straight men higher than that of gay men.
- This indicates a scent based ability to assess sexual orientation and enables us all to pinpoint potential partners instantly.

Charles Wysocki U PA Monell Chemical Senses Center

Biological basis for sexual orientation?

- Using brain imaging, Swedish researchers have shown that homosexual and heterosexual men respond differently to two odors that may be involved in sexual arousal, and that the gay men respond in the same way as women. Response of the hypothalamus is determined not by gender, but by sexual orientation. Savic I. Brain response to putative pheromones in homosexual men. 2005 *PNAS*, vol. 102 no. 20.
- Heterosexual women and homosexual men prefer seats sprayed with androstenone (a male pheromone) Pause BM. Are androgen steroids acting as pheromones in humans? *Physiol Behav.* 2004 Oct 30;83(1):21-29

- the term “odortype” was coined to denote the genetically programmed body odors that uniquely distinguish individuals.
- Odortype is revealed and announced in urine.



The Scent of Desire - the Pill and other pitfalls

- It is suggested that women on the Pill cannot trust their decisions in choosing long-term partners as it may skew their detection of MHC compatibility
- “Body odor is an external manifestation of the immune system, and the smells we think are attractive come from those who are most genetically compatible with us.” Rachel Herz, *Psychology Today* Jan/Feb 2008
- We unconsciously sniff out mates that help diversify the gene pool, creating offspring that are more disease-resistant
- Couples with similar MHC genes experienced more infidelity; (don't fall for his cologne)

Reputed aphrodisiac scents

- Jasmine
- Ylang
- Rose
- Neroli
- Vanilla
- Clary sage
- Patchouli
- Sandalwood
- Ambrette
- Lavender



Mostly flowers, woods, resins,
and some spices

Sense of Smell - Immunity Link

- Studies have suggested that people might be using odor cues associated with the immune system to select mates
- Major Histocompatibility Complex (MHC)
We subconsciously sniff out a genetically different gene pool with which to mate to keep immunity more diverse.

- K. Yamazaki,* G. K. Beauchamp,* ‡ M. Curran,* J. Bard, † and E. A. Boyse. **Parent-progeny recognition as a function of MHC odortype identity.** *Proc Natl Acad Sci* 2000 September 12; 97(19): 10500–10502.
- Kunio Yamazaki,* Gary K. Beauchamp,* † Alan Singer,* Judith Bard, † and Edward A. Boyse. **Odortypes: Their origin and composition.** *Proc Natl Acad Sci*, 1999 February 16; 96(4): 1522–1525

Genital Wash

In a 4 oz bottle –
3 oz rosewater
1 oz vinegar
1 tsp carrier oil
10 drops essential oil
(lavender, geranium, tea tree,
sandalwood, clary sage, etc.)
Shake well before use



Breast Massage Oil



Lymph Massage

Orange
Lavender
Angelica
Sandalwood
Frankincense
Geranium
Atlas cedar
Rose
Violet abs
Jasmine abs

Aphrodisiac Tonics

FOODS

- Chocolate
- Oysters
- Pomegranate
- Avocado
- Peppers
- Asparagus
- Olives/figs
- Seeds



HERBS

- Damiana
- Sarsaparilla
- Saw palmetto
- Ginseng
- Licorice
- Rose
- Vanilla
- Ginger
- Saffron

Daily Herbal Tonics for Women

- Milky oats
- Ginger
- Nettle
- Chamomile
- Lemon balm
- Raspberry leaf
- Red clover
- Calendula
- Rose



Incorporate into foods:
burdock, maca, goji,
eleuthero, American
ginseng, dong quai,
astragalus, saffron,
parsley, turmeric,
rosemary, basil

Prunella vulgaris (Self Heal)

"This herb may be useful as an adjunct for the treatment of estrogen-dependent processes like endometriosis and breast and uterine cancers."

Collins NH, et al. Characterization of antiestrogenic activity of the Chinese herb, *Prunella vulgaris*... Biol Reprod. 2009 Feb;80(2):375-83



Marginalized herb

PMS

- Reduce animal fat, caffeine, refined foods, sugars, alcohol
- Increase magnesium, calcium, EFAs, vit B & D
- HERBS: **hepatics, diuretics, nervines, antispasmodics, analgesics, circulatory tonics, antiinflammatories, adaptogens**: dandelion, milk thistle, St. J W, calif poppy, scullcap, verbena, hops, rosemary, ginger, cinnamon, chamomile, boswellia, wild yam, yarrow, alchemilla, calendula, vitex, dong quai, eleuthero, ashwaganda, licorice
- TCM - spleen/blood deficiency: yin, damp, stagnant

Menstrual Cramps

Moon Time Blend

Lavender
Geranium
Sweet Marjoram
Roman chamomile
Clary sage
Ginger

*antispasmodics,
circulatory stim,
anti-inflammatories*



Sitz Bath



- Alternate hot and cold applications 3-4 rounds for each session
- 3-4 times a day to reduce pain and increase circulation
- Add ginger powder

Ginger Poultice

Stimulate circulation
Reduce inflammation
Decrease stagnation

Dried herb – more yang

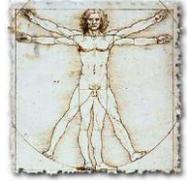


Vag infection

- calendula
 - plantain
 - comfrey
 - marshmallow
 - rose
 - golden seal
 - yarrow
 - myrrh
 - uva ursi
 - echinacea
 - garlic
- Bolus, douche, tea

Herpes

- melissa
- licorice
- garlic
- avoid arginine foods:
hazel, brazil, peanuts
- Supplements: lysine,
Vits A and D, zinc



EOs for Herpes

- Rose
- Melissa
- Bergamot
- Lemon eucalyptus
- Palmarosa
- Lemon tea tree
(*Leptospermum petersonii*)



Dilute to 1% in calendula or tamanu oil

Vaginal Dryness/ Menopause

2 oz Pomegranate or
Sea Buckthorn oil

1 drop each:

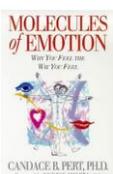
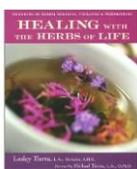
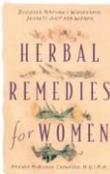
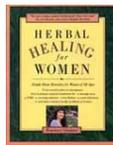
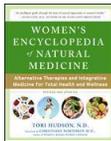
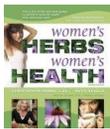
- Clary sage
- Fennel
- Geranium
- Rose

Vit E capsule
(approx 0.20%)



Add EFAs to diet!

Recommended Reading



Recommended Reading Aroma

- *What the Nose Knows* by Avery Gilbert
- *The Scent Trail* by Celia Lyttleton
- *The Scent of Desire* by Rachel Herz
- *A Natural History of the Senses* by Diane Ackerman
- *Scent, the mysterious and essential powers of smell* by Annick Le Guerier*
- *Aroma, the cultural history of smell* by C Clause, D Howes, A Synott *
- *Fragrance, the story of perfume from Cleopatra to Chanel* by Edwin T. Morris*