

Best Practices for Using Botanical Names in Academic Writing



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Section 1

Latin Names

Latin names are written following an internationally accepted binomial nomenclature code that dates back to the Swedish naturalist. Carl Linnaeus 1707-1728.¹

You may be thinking, "do I really need to learn Latin names"? The short answer is yes. You should get into the habit of using the Latin binomial or scientific name for each essential oil or herb that you use. Let's explore why.



Why Do We Need to Know Latin?

To Ensure You Have The Correct Plant

You need to know the Latin binomial to ensure that the oil or herb you purchase has been produced from the correct plant or botanical. You must know the specific plant, and in some cases, the part of the plant that was used.

Knowing the correct botanical, boosts your confidence that an essential oil or herb will have a typical constituent profile and may produce specific physiological and psychological support. For example, lavender essential oil is made from many varieties of the species *Lavandula*. Within the species is a wide range of plants with varying chemical constituents. If the oil is made from the hybrid lavandula intermedia (Emeric ex Loisel.) plant, the oil will not have the

¹Wille-Muller, S. (2021, January 7). *Carolus Linnaeus: Swedish botanist*. Britannica. https://www.britannica.com/biography/Carolus-Linnaeus

relaxing qualities of the true lavender Lavandula angustifolia (Mill.).

Lavandula intermedia is high in camphor and camphor is a stimulant. Although the two plants look very similar and closely related, they have quite different levels of individual constituents, so they affect us differently. Lavandula intermedia plants produce a higher volume of oil, so lavandin oil is cheaper to produce. Oil from lavandin Lavandula intermedia plants are often mislabeled "lavender" essential oil, so it is vital to obtain the Latin binomial name.

Latin names are also essential in herbal medicine. A great example is the herb skullcap *Scutellaria lateriflora (L.)* which is native to eastern North America. This herb is an excellent nervine and has a long history in Western herbal medicine. It has been confused and mixed with another herb in the mint family, also called skullcap. The flower is similar and it is found in the same environment. This skullcap is also called American germander *Teucrium canadense* (L.), which contains potentially hepatotoxic diterpenes. The herb *T. canadense* has been found in the past to be a contaminant in dried *S. lateriflora*. Understanding the Latin names can keep potentially serious misidentification from happening.

Common Names Are Not Reliable

Common names alone are not reliable. As mentioned above, lavender is frequently used to describe any of the *Lavandula* species. There are many other examples. Anise oil is distilled from *Pimpinella anisum* (L.) and *Illicium verum* (Hook.f.). Both are commonly called anise; however, *I. verum* has a very different constituent profile and has numerous contraindications and safety issues. Estragole and safrole in *I. verum* indicate it is potentially carcinogenic and a reproductive hormone modulator. It may also inhibit blood clotting.²

² M. Yoshioka, T.T. Tamada: Aromatic factors of anti-platelet aggregation in fennel oil. *Biogenic Amines*. 19, 2005, 89–96.

Checking Latin Binomials

If you are not sure of the Latin name of an essential oil or herb, do not hesitate to refer to your reference books. As you unpack your course lab kits of essential oils and herbs, check the common name and the Latin name.

Tips for learning Latin Names

It seems that everyone is challenged by trying to learn the Latin names of the plants. Using some simple study methods you will soon master both the Latin names and the correct format to use when you refer to Latin names and nomenclature in academic writing.



Here are three tips to help you along:

- 1. Make flashcards. You can get as creative as you want. Use paper or digital flash cards. There are <u>many flashcard Apps click to check out this great blog</u>. Make sure you can access your flashcards wherever you go, so you can review them when you get a minute.
- 2. Start to use both the common and Latin name when writing up your class assignments from day one of your class.
- 3. When you are using your essential oils or herbs from your kit, say both the common name and the Latin name out loud 3 times.

Guidelines for Using Latin Names with Botanist Initial in your ACHS Academic Writing

- Herbs and essential oils should be referred to by their common and Latin names in all research papers, blog articles, product labels, and case study reports.
- appears, include the full Latin name (with the genus (the first word) capitalized and the species (the second word) lower case), and then the botanist's initial i.e., *Arnica montana* (L.). Note that the common name is also lower case. Example:



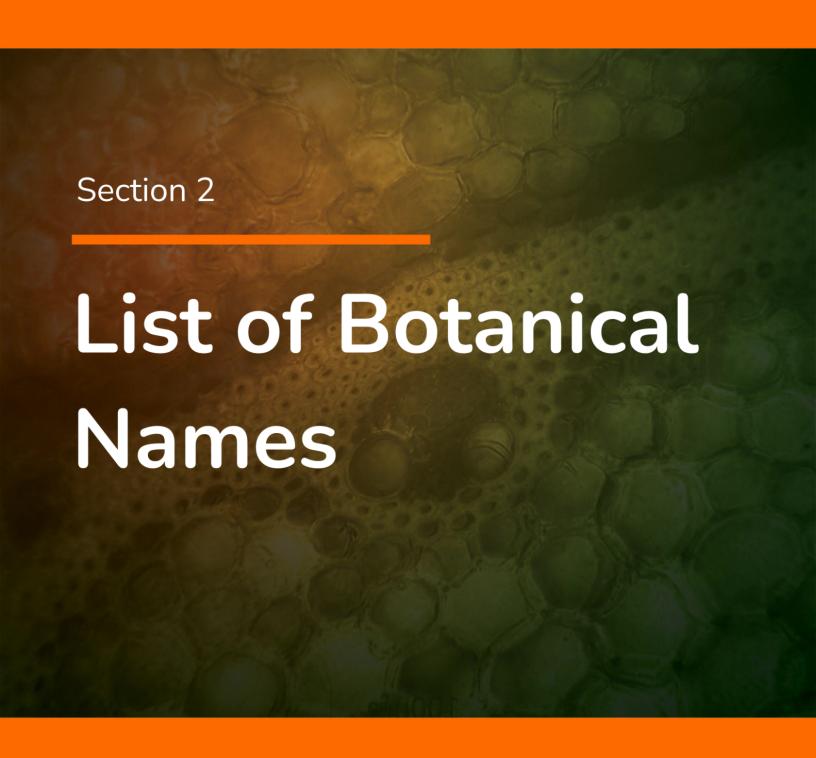
lavender Lavandula angustifolia (Mill.) If it is the first word in the sentence, it should be written like this Lavandula angustifolia (Mill.) lavender. It is not necessary to add the botanist's initial after the first mention.

- Within the same document, the second, third, fourth, (and so on), time the Latin name appears, include in abbreviated form (i.e., the first letter of first part of Latin name and second part in full — e.g., lavender L. angustifolia NOT lavender Lavandula angustifolia
- Latin names always appear in italics; if this is not possible, underline them.
- Latin names for bacteria, fungi, and insects, follow the same formatting rules as Latin names for herbs and essential oils.

- Latin names DO NOT appear in parenthesis OR between commas they should directly follow the common name (e.g., lavender *Lavandula angustifolia* is especially effective for ...).
- A Latin name should not appear by itself (i.e., always the common name should be followed by the Latin name) UNLESS it is used as the first word(s) in the sentence. In that case, it should appear in full (e.g., Lavandula angustifolia).
- Specify in your papers what part of the botanical you refer to for example Lavender Lavandula angustifolia (Mill.) essential oil or Arnica Arnica montana (L.) flowers.

If you are not able to locate a botanist for an essential oil, herb or fungi, check these databases:

- <u>U.S. National Plant Germplasm System GRIN-GlobalUSDA</u>
 <u>Plants Database</u>
- USDA Plants Database
- U.S. National Fungus Collections Specimen Database



List of Botanical Names

The following list is the herbs and essential oils used in ACHS courses.

Please note, we have listed the botanicals in alphabetical order according to their common name. The formatting guideline above will give you more guidance when you are including botanical names in your academic writing and other documents:

acerola Malpigia emarginata (DC)

acerola Malpighia glabra (L.)

Alexandrian senna Senna alexandrina (Mill.)

alfalfa Medicago sativa (L.)

allspice Pimenta dioica (L. ex Merrill)

almond Prunus amygdalus (Batsch)

aloe Aloe barbadensis (Mill.)

American elder Sambucus canadensis (L.)

American ginseng Panax quinquefolium (C.A Mey)

American pennyroyal Hedeoma pulegioides (Pers.)

angelica Angelica archangelica (L.)

angelica Angelica archangelica (L.)

anise Illicium verum (Hook.f.) star

anise Pimpinella anisum (L.)

anise Pimpinella anisum (L.)

apple.geranium Pelargonium odoratissimum (Soland.)

apricot Prunus armeniaca (L.)

arnica Arnica montana (L.)

asafetida Ferula assafoetida (L.)

arnica Arnica montana (L.)

asafetida Ferula assafoetida (L.)

Atlas cedarwood Cedrus atlantica (G.Manetti)

avocado Persea gratissima (C.F. Gaertn.)

balsam fir Abies balsamea (L.)

balsam of Peru Myroxylon balsamum (Harms)

barberry

Berberis vulgaris (L.)

barley

Hordeum vulgare (L.)

basil

Ocimum basilicum (L.)

basil Ocimum gratissimum (L.)

bay Laurus nobilis (L.)

benzoin Styrax benzoin (Dryand.)

bergamot Citrus aurantium (L.) var. bergamia

birch Betula alba (L.)

bitter orange Citrus aurantium (L.) var. amara

black cohosh Actaea racemosa (L.)

black currant Ribes nigrum (L.)

black elder Sambucus nigra (L.)

black pepper Piper nigrum (L.)

black tea Camellia sinensis (L.)

black walnut Juglans nigra (L.)

blackberry Rubus fruticosus (L.)

bladderwrack Fucus vesiculosus (Linn.)

blood orange Citrus sinensis (Osbeck)

blue cohosh Caulophyllum thalictroides (L.) Michx.

bog bean Menyanthes trifoliata (L.)

borage Borago officinalis (L.)

Brazil cherry Eugenia uniflora (L.)

Brazilian rosewood Aniba rosaeodora (Ducke)

britton Aloysia triphylla (L'Her.)

broadleaf dock Rumex obtusifolius (L.)

broadleaf wild leek Allium ampeloprasum (L.)

broom or broomtops Cytisus scoparius (L.)

brown mustard Brassica juncea (L.) Czern.

buchu Barosma betulina (Bartl. & H.L.Wendl.)

buckthorn Rhamnus purshiana (DC.)

buckwheat Fagopyrum esculentum (Moench)

buckwheat Fagopyrum esculentum (Moench)

burdock Arctium lappa (L.)

cajuput Melaleuca leucadendron (L.)

calamus Acorus calamus (L.)

calendula Calendula officinalis (L.)

camphor Cinnamomum camphora (L.)

candeia tree Eremanthus erythropappus (DC.)

candlenut Aleurites moluccana (L.)

candlewood, West Indian

rosewood Amyris balsamifera (L.).

caraway Carum carvi (L.)

cardamom Elettaria cardamomum (L.)

carrot Daucus carota (L.)

catnip Nepeta cataria (L.)

cayenne Capsicum annuum (L.)

celandine Chelidonium majus (L.)

celery Apium graveolens (L.)

chamomile, German Matricaria recutita (L.)

chamomile, maroc Ormenis multicaulis (BraunBlang. & Maire)

chamomile, roman Chamaemelum nobile (L.) All.

chervil Anthriscus cerefolium (Hoffm.)

chia Salvia hispanica (L.)

chickweed Stellaria media (L.)

chicory Cichorium intybus (L.)

Chinese angelica or dong

quai Angelica sinensis (Oliv.) Diels

Chinese cinnamon Cinnamomum cassia (L.)

chives Allium schoenoprasum (L.)

cinnamon Cinnamomum zeylanicum (Blume)

cistus Cistus ladaniferus (L.)

citronella Cymbopogon nardus (L.)

clary sage Salvia sclarea (L.)

cleavers Galium aparine (L.)

clove Eugenia caryophyllata (Thunb.)

clove Syzygium aromaticum (L.)

coltsfoot Tussilago farfara (L.)

comfrey or boneset Symphytum officinale (L.)

common briar rose or dog

rose Rosa canina (L.)

common camellia Camellia japonica (L.)

common thyme Thymus vulgaris (L.)

coriander or cilantro Coriandrum sativum (L.)

corn Zea mays (L.).

costus Saussurea lappa (Decne.)

couch grass Elytrigia repens (L.)

cranberry Vaccinium vitisidaea (L.)

cumin Cuminum cyminum (L.)

curly dock Rumex crispus (L.)

cypress Cupressus sempervirens (L.)

dandelion Taraxacum officinale (F.H.Wigg.)

devil's claw Harpagophytum procumbens (Burch.)

dill Anethum graveolens (L.)

dwarf nettle Urtica urens (L.)

elecampane Inula helenium (L.)

elemi Canarium luzonicum (Miq.)

Eleutherococcus senticosus (Rupr. &

eleuthero Maxim.) Maxim.

eucalyptus Eucalyptus dives (Schauer)

Eucalyptus australiana (R.T.Baker &

eucalyptus H.G.Sm.)

eucalyptus Eucalyptus citriodora (Hook.)

eucalyptus Eucalyptus globulus (Labill.)

eucalyptus Eucalyptus smithii (R.T.Baker)

European mistletoe Viscum album (L.)

evening primrose Oenothera biennis (L.)

fennel Foeniculum vulgare (Hill)

fenugreek Trigonella foenumgraecum (L.)

feverfew Tanacetum parthenium (L.)

filbert or hazelnut Corylus avellana (L.)

flax Linum usitatissimum (L.)

frankincense Boswellia carterii (Birdw.)

gardenia Gardenia jasminoides (J.Ellis)

garlic Allium sativum (L.)

gentian Gentiana lutea (L.)

geranium Pelargonium graveolens (L'Her.)

ginger Zingiber officinale (Roscoe)

ginkgo Ginkgo biloba (L.)

goldenseal Hydrastis canadensis (L.)

grape Vitis vinifera (L.)

grapefruit Citrus paradisi (Macfad.)

guar Cyamopsis tetragonoloba (L.) Taub.

gymnema Gymnema sylvestre (Retz.) Schult.

hawthorn Crataegus laevigata (Poir.) DC.

hemlock spruce Abies canadensis (L.)

hemp Cannabis sativa (L.)

hollyhock Althaea rosea (Cav.)

hops Humulus lupulus (L.)

Armoracia rusticana (G.Gaertn., B.Mey. &

horseradish Scherb.)

horseradish Cochlearia armoracia (L.)

horsetail Equisetum arvense (L.)

hyssop Hyssopus officinalis (L.)

immortelle Helichrysum angustifolium (Pers.)

immortelle, Italian Helichrysum italicum (Roth)

Indian tobacco Lobelia inflata (L.)

iris Iris germanica (L.)

Irish moss Chondrus crispus (Stackh.)

jaborandi or Indian hemp Pilocarpus jaborandi (Holmes)

jasmine Jasminum officinale (L.)

jasmine Jasminum grandiflorum (L.)

jojoba Simmondsia chinensis (C. K. Schneid)

juniper Juniperus communis (L.)

kaffir lime Citrus hystrix (DC)

key lime Citrus aurantiifolia (Christm.)

lamb's quarters or fathen Chenopodium album (L.)

larch Larix decidua (Mill.)

lavandin Lavandula intermedia (Emeric ex Loisel.)

lavender Lavandula angustifolia (Mill.)

lavender Lavandula officinalis (Chaix.)

lavender Lavandula vera (DC.)

leek Allium porrum (L.)

lemon Citrus limonum (Risso)

lemon scented gum Corymbia citriodora (Hook.)

lemon verbena Aloysia citriodora (Ortega ex Pers.)

lemongrass Cymbopogon citratus (Stapf)

licorice Glycyrrhiza glabra (L.)

lily of the valley Convallaria majalis (L.)

Linden or common lime Tilia europaea (Linn.)

lovage Levisticum officinale (W.D.J.Koch)

macadamia nut Macadamia tetraphylla (L.A.S.Johnson)

mandarin Citrus reticulata (Blanco)

manuka or New Zealand tea

tree Leptospermum scoparium (Forst.)

marjoram Origanum majorana (L.)

marshmallow Althea officinalis (L.)

meadowsweet Filipendula ulmaria (L.) Maxim.

melissa or lemon balm Melissa officinalis (L.)

milk thistle Silybum marianum (L.) Gaertn.

mimosa Acacia dealbata (Link)

mojito mint Mentha villosa (Huds.)

motherwort Leonurus cardiaca (L.)

mountain flax Linum catharticum (L.)

mountain pine Pinus pumilio (Haenke)

mugwort Artemisia vulgaris (L.)

mullein Verbascum thapsus (L.)

mustard Brassica nigra (L.) W.D.J.Koch

myrrh Commiphora myrrha (Engl.)

narrow leaf echinacea Echinacea angustifolia (DC)

nettle,stinging *Urtica dioica* (L.)

niaouli Melaleuca quinquenervia (Cav.)

nutmeg Myristica fragrans (Houtt.)

nutmeg scented geranium Pelargonium fragrans (Willd.)

oakmoss Evernia prunastri (L.)

oat Avena sativa (L.)

olive leaf Olea europaea (L.)

onion Allium cepa (L.)

oregano Origanum vulgare (L.)

Pacific red cedar Thuja plicata (Donn.)

pale echinacea Echinacea pallida (Nutt.) Nutt.

palmarosa Cymbopogon martini (Roxb.)

parsley Carum petroselinum (L.)

parsley Petroselinum crispum (Mill.)

passionflower Passiflora incarnata (L.)

patchouli Pogostemon cablin (Benth.)

peanut Arachis hypogaea (L.)

pennyroyal Mentha pulegium (L.) var. electa

peppermint Mentha piperita (L.)

petitgrain Citrus aurantium (L.)

pine Pinus palustris (Mill.)

plantain Plantago major (L.)

pleurisy root or butterfly

milkweed Asclepias tuberosa (L.)

pokeroot Phytolacca americana (L.)

prickly ash Zanthoxylum americanum (Mill.)

purple coneflower Echinacea purpurea (L.) Moench

Cryptocarya agathophylla (van der Werff)

ravensara (formerly Ravensara aromatica (Sonn.)

red clover Trifolium pratense (L.)

red raspberry Rubus idaeus (L.)

rose or cabbage rose Rosa centifolia (L.)

rose or Damask rose Rosa damascena (Mill.)

rose or red rose Rosa gallica (L.)

rosemary Rosmarinus officinalis (L.)

roseroot Rhodiola rosea (L.)

rue Ruta graveolens (L.)

sabina Juniperus sabina (L.)

saffron Carthamus tinctorius (L.)

sage Salvia officinalis (L.)

sandalwood Santalum album (L.)

sassafras Sassafras albidum (Nutt.)

sassafras Sassafras officinale (L.)

savin Sabina cacumina (Linn.)

savory Satureja hortensis (L.)

savory Satureja montana (L.)

scotch pine Pinus sylvestris (L.)

selfheal Prunella vulgaris (L.)

sesame Sesamum indicum (L.)

shepherd's purse Capsella bursapastoris (L.)

Siam benzoin Styrax tonkinensis (Craib ex Hartwich)

skullcap Scutellaria lateriflora (L.)

slippery elm Ulmus fulva (Michx.)

slippery elm *Ulmus rubra* (Muhl.)

Small echinacea Echinacea tennesseensis (Beadle)

soft downy rose Rosa mollis (Sm.)

sorrel Rumex acetosa (L.)

soybean Glycine max (L.) Merr.

Spanish lavender Lavandula stoechas (L.)

Spanish oregano Thymus capitatus (Hoffmanns. & Link)

spearmint Mentha spicata (L.)

spike lavender Lavandula latifolia (Medik.)

St. John's wort Hypericum perforatum (L.)

stevia Stevia rebaudiana (Bertoni)

stillingia Stillingia sylvatica (L.)

Sumatra benzoin Styrax paralleloneurum (Perk.)

sunflower Helianthus annuus (L.)

sweetbrier rose Rosa rubiginosa (L.)

tangerine Citrus tangerina (L.)

tansy Tanacetum vulgare (L.)

tea tree, Australia Melaleuca alternifolia (Cheel)

thuja Thuja occidentalis (L.)

thymol or carvacrol

thyme chemotype Thymus vulgaris (L.) ct

tuberose Polianthes tuberosa (L.)

turmeric Curcuma longa (L.)

uva ursi or bearberry Arctostaphylos uva ursi (L.)

valerian Valeriana officinalis (L.)

vanilla Vanilla planifolia (Andrews)

verbena Lippia citriodora (Lam.)

verbena Verbena officinalis (L.)

vetiver Vetiveria zizanioides (Nash)

violet Viola odorata (L.)

Virginia cedarwood Juniperus virginiana (L.)

watercress Nasturtium officinale (W.T. Aiton)

West Australian Eucarya spicata (R. Br.) Sprague &

sandalwood Summerh.

West Indian bay Pimenta racemosa (Mill.) J. W. Moore

Western juniper Juniperus occidentalis (Hook.)

wheat Triticum aestivum (L.)

wild garlic Allium vineale (L.)

wild ginger Zingiber zerumbet (L.) Sm.

wild yam Dioscorea villosa (L.)

wintergreen Gaultheria procumbens (L.)

witch hazel Hamamelis virginiana (L.)

wormseed Chenopodium anthelminticum (L.)

wormwood Artemisia absinthium (L.)

yarrow Achillea millefolium (L.)

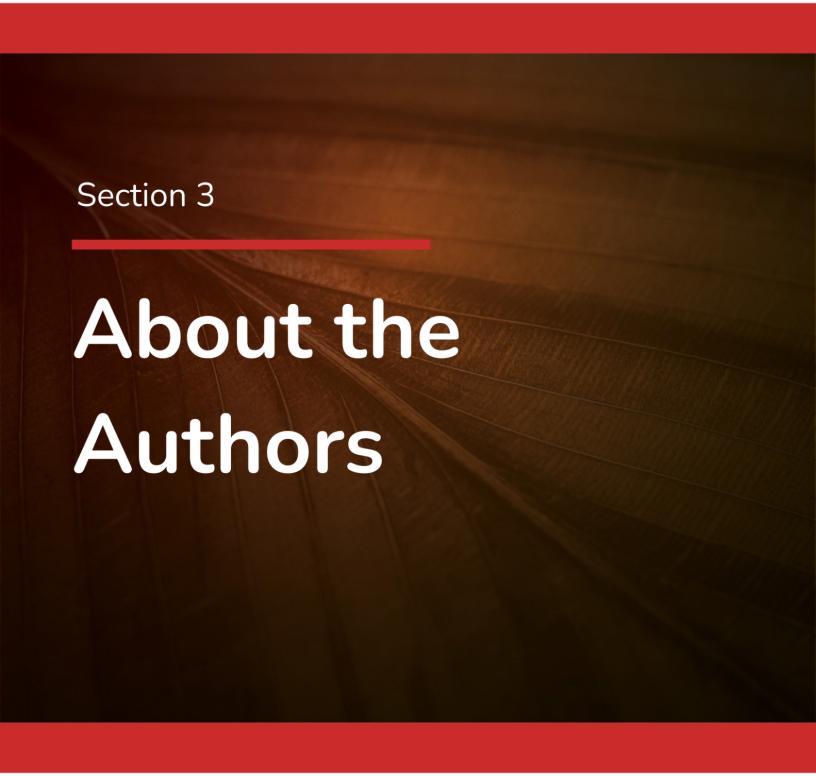
ylang ylang Cananga odorata (Lam.) var. genuina

Additional Resources

How to Write Latin Names of Species https://abacus.bates.edu/~ganderso/biology/resources/writing/HTWlatin.html

How to Write Scientific Names of Plant and Animal Species in Journal Manuscripts (Part 1) https://www.enago.com/academy/how-to-write-scientific-names-in-a-research-paper-animals-plants/

An Open-access, Web-based Compendium of the World's Plant Species http://www.worldfloraonline.org/



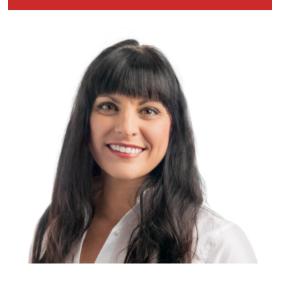
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