Sacred Smokes in Circumboreal Countries: An Ethnobotanical Exploration

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Smudging, that is the slow burning of plant material to produce smoke, is well known in but not limited to North America. Smoking and smudging are found in many societies around the world, most of them in the northern hemisphere. Most "circumboreal" societies use plant smoke for practical, medicinal and ritual purposes. Using ethnobotanical literature as well as my own field research in the Hudson Bay area, Alaska and Northern British Columbia, and my family's experience, I have so far listed more than 150 plants that are or were used ritually or medicinally smoked or smudged in Northern North America, some of which are also found and smudged in Eurasia.

Aboriginal ritualists have demonstrated the use and ceremonial value of smudging throughout Canada and the United States of America. The four best-known fumigants, tobacco, sage, sweet grass and cedar have become commonplace in Aboriginal and Neo-aboriginal rituals. But there are older Aboriginal traditions that relate to the use of many other plants as fumigants, smokes, or smudges. One of the goals of this presentation is to delve into those traditions and bring to attention those plants the smoke of which used to play such an important part on the Subarctic and Arctic American sacred landscape, and that are also found and used in other northern countries. Very

little research has been done in the use of plant smoke and most uses are still unrecorded.

Part I. Plant Smoke and Smudging

Fumigation, perfume, incense, smudging, smoking. These are five terms with a common reference to burning plants for their smoke.

We prefer the term fumigation to denote the general use of fresh or dried plant materials burning by themselves or placed on live coals in order to produce smoke. Such smoke can be directed toward domestic use, for instance to affect the smell of a room or to get rid of certain pests. It can also have medicinal purposes, to clean a space or deliver medication. It often carries ritual connotations.

We no longer use the term perfume in its original sense of "*per fumum*" or "for smoke." It used to apply to pleasant smells derived from burning various materials. We have extended it to mean anything that smells sweet, and let go of the original burning connotation.

The term incense, from the Latin *incensum* (meaning "lit or burning object"), from which we derive words like incendiary, has become the main designation for the substance from which arises, when it is burning slowly, a scented smoke. It was first applied to any plant material used for such a purpose, then became equated with the most precious gum-resins perfumed with certain additives or not. It has often acquired religious connotations, yet, in Middle Eastern and Asiatic traditions, it also has a strong erotic component.

Smudging is a modern term derived from North American Indian rituals. The smudge fire, lit to keep insects away from the camp, is a close relative of ceremonial smudging. In the Aboriginal context, smudging involves lighting a bundle of aromatic plant materials such as tobacco, sage, cedar or sweet

grass and letting the resulting smoke waft over and around people and sacred sites for ritual or therapeutic purposes. Additionally, as a result of smudging, mind-altering substances could be distributed to shamans or healers, their patients and their audiences. The healing properties attributed to the smoke of plants were common knowledge until this century, even in Europe. For example, thyme was still burnt in hospitals as an antiseptic during World War I. Most fumigating materials, being strong-scented, contain chemicals that lead to medicinal use.

Smoking, that is, directly inhaling smoke from a pipe or a cigarette delivers the chemicals directly into the body of the smoker. It works very fast, as the smoking of tobacco demonstrates, and is a most efficient method of delivering medicine to a patient. Ritual smudging also results in the participants absorbing some of the chemical components of the plants.

Finally, in northern Aboriginal societies, one cannot mention smoke without thinking about skin tanning and food preserving. The magnificent colour and smell of moose, deer, reindeer or caribou and bison skins tanned for clothing and footwear are the result of millennia of experience and experimentation and loving care in the choice of ingredients and techniques. To do justice to such knowledge would require a book of its own. In Europe, in Siberia and in America, smoking meat and fish in the proper manner also requires a solid knowledge of woods and trees; indeed, the culinary aspects of smoke would also require a study of its own.

In this type of research, the main problem is one of knowledge. Botany and ethnobotany are experimental and experiential sciences. One must be able to recognize, identify, and assess the effect of the specific plants being used. Smudging, after all, is a human consumption of plants.

Fumigating Techniques

Fumigating techniques vary from one culture to another. Plants can be used fresh or dried, whole, shredded or powdered, made into paste, scattered on the coals, tied into bundles, rolled into cigars or tubes, baked into cakes, pastilles or sticks or packed in a pipe.

Plants may be lit so as to burn by themselves, provided they contain resin, gum-resin or some substance that allows slow and steady burning. The resin or gum-resin can be extracted and used by itself, bundles of twigs can be tied; leaves can be rolled. Plants that do not contain those substances may be mixed with resinous substances so as to burn more easily. Most incense today is flavoured in some way. This leads to the preparation of incense sticks and pastilles, as well as censers and bowls. Some substances without much aroma of their own can act as a fixative for the scent, so that incense recipes can become extremely complex.

The American Indian people invented the pipe; they also taught the Europeans how to smoke the pipe; tobacco found its way into the pipe and the rest, as they say, is history.

Plants can be placed on live coals, a technique found on all continents and that allows a much greater range of plant material to be smudged; a container for the hot coals must be available.

One can place the plant directly onto the live coals of an open fire, a technique preferred in Western and Northwestern America, along the Pacific Coast all the way to Alaska and in Siberia. An American Indian and Northern European variation consists of producing steam instead of smoke, in which case some kind of liquid is produced from the plants (juice, tea, extract) before being boiled or heated: teas and decoctions can be poured on hot stones or into a bowl for inhalation, so a person can inhale the aromatic steam. Another way of combining smudging and steam is to place the fresh leaves directly on or under the hot stones used in the sweat lodge.

In theory, any plant that is either resinous or dried could be smudged. In practice, one would not smudge a plant the smoke of which is either unpleasant or poisonous. Many plants do not yield any flavour and have therefore found no use in smudging.

Ritual Meanings of Smudging and Plant Symbolism

Region and communities used to have their own ritual smudging traditions. There are marked, but essential, differences between the incense and fumigation traditions of the Old World, which are influencing much of today's practices, the Northern European fumigation techniques, the ritual smudges used in Siberia, and the smoking and smudging tradition of North America. The classic Mediterranean traditions, merging the customs of the Middle Eastern and Southern European peoples, and the symbolically complex rituals of Eastern and South-Eastern Asia, provide contrasting perspectives.

To simplify the matter, we could say that the Middle Eastern, Mediterranean, South European and Classical worlds view the sacred in its specific expressions at the points and times of contact between divinities, human lives and environment. The Aboriginal cultures of Siberia and America view the sacred as a pervasive and all-encompassing aspect of concrete reality.
In the religions of the Old World, especially Mediterranean and Middle Eastern areas, the world is organized around urban centres, and nature (as well as humanity) is domesticated to serve both human beings and divine figures. The ultimate reality is an ideal model. A symbolic system of attributions and correspondences, built partly on mythological details, defines each plant used in a ritual setting, according to its privileged link with a specific deity, in symbolic parallel with minerals, times of day, astrological configurations and so on. This allows us to say, for instance, that laurel symbolizes the sun and Apollo. With a few exceptions (mostly in Central America), this sort of statement

cannot be made in North America, where each plant is seen as an individual participant in the ritual setting, though with its own characteristics and properties. We cannot say, for instance, that sage symbolises purification; we can and do, however, say that sage is smudged to purify the participants in a ritual, and to heal certain physical problems in certain circumstances, healing and ritualizing often being part of the same process.

Everywhere, the properties attributed to each plant are arrived at by experiments but also by theoretical considerations that may have little to do with the actual chemical components of the plant. In Europe, especially during mediaeval times, the famous "doctrine of signature" allows healers and magicians to match plants with organs, ailments and other symbols such as astrological signs: a plant with heart-shaped leaves is thought effective for heart disease; a plant that contains a milky substance is believed to promote milk production in a new mother's breast, and so on. This is magical thinking rather than scientific or factual. In northern Europe, the Norse and their neighbours also consider the magical properties of the plants, and pay special attention to their forms; for instance, thorny plants are thought to repel bad spirits because of their thorns and poisonous plants are efficacious against evil because they are supposed to "poison" the devil, etc.

The North American Indian people are much more interested in what we would today consider the pharmaceutical properties of the plants they use. They trust their own concrete experiences more than any theoretical or symbolic system. Consequently many peoples have experimented in various but concrete ways. They are much more likely to include the plants in their healing rituals because of their physiological effects. They are more likely, as well, to include plant smoke in their hunting techniques, and they have invented smoking with pipe or pipe-like implements to receive the full benefit of the smoking mixture.

Smudging in Northern Europe

Northern European traditions are being reintroduced and sometimes reinvented today, while the corresponding beliefs and ritual traditions are being reassessed as Neo-Pagan ritualists attempt to transplant them to a new continent. Northern European societies use fumigation in domestic as well as ritual ways, medicated smoke is also believed to be a purifying device, fortifying the body brings power to the soul, while smoke used as pesticide is directed equally against mosquitoes and bad spirits. Getting rid of evil influences used to be a major preoccupation among the northern Europeans and their neighbours, including the Saami people.

Smudging in Siberia

The Siberian world used to be inhabited by hunters, foragers, fishers and reindeer herders who saw the other animal and spiritual inhabitants of the world as co-participants in a common (not necessarily controlled) environment. Northern Siberian populations used to practice ceremonial smudging in one form or another primarily as a way to prepare a ritual space; their traditions of smudging are embedded in rich shamanic complexes, but they are not known outside of their local areas.

Incense in the Middle East and Asia

The Middle Eastern and Mediterranean populations link the notion of incense to the notion of sacrifice on the one hand, and to pleasurable, if not erotic, moments in life, on the other hand. In classical Mediterranean civilisations, such as Egypt, Babylon, Palestine, Greece or Rome, incense smoke is a symbol of the prayer rising toward the divinity and an offering to the divinity as

well as a sign of wealth and a source of pleasure. There were, then, a great variety of incenses, used both in religious rituals and in social activities, since incense was not restricted to religious settings; indeed, for rich people, it was part of everyday life. Among the Hebrews, incenses of various kinds were considered an ideal and necessary component of ritual sacrifice. The Bible lists many different plants known for their resins, gum-resins, and other incense-like products.

Incense is also part of the temple experience for Buddhists and Hindus. In China and Japan, incense was brought in with Buddhism. The old smudging ceremonies inherited from shamanic practices continued in less obvious fashions.

Incense and Sacrifice in the Classical World

The Ancient Greeks evolved a whole set of theories accounting for the nature of ritual sacrifices, taking into account the offering of aromatic substances to the deities. Sacrifices were burnt because the gods and goddesses, beings of a higher nature than humans, could partake of the essence of the gift alone. The gift of the sacrifice of an ox was shared between the higher powers and mankind, with the essence, that is the smell or smoke of the burnt meat, going to the deities, while the leftovers, that is the cooked meat, went to human beings. Plants could be completely burnt and were therefore considered a purer form of sacrifice. Each deity called for a different set of aromatic plants.

The Early Christian fathers banned incense because of, *inter alia*, its pagan connotations, and the erotic and pleasurable connotations of incense. Today, the Christian churches, especially Catholics and Anglicans, use incense in a deliberate but restrained manner to mark important ceremonies.

Smudging in North America

The North American traditions have been reduced in contemporary popular views to essential but simple rituals with half-a-dozen plants replacing the vast and diversified knowledge and the several hundred plants that used to be part of the Aboriginal cultural horizon. The list of plants to smoke or smudge, as well as the intent of ceremonial smudging varies from one people to the next. The smoke of the sacred plants is part of many rituals as a participation in the high powers of the universe, a blessing or purification of the participants, a marker of ritual space, or simply as a way to administer the therapeutic components of the plant to sick patients.

The North and South American Aboriginal people have long developed their own technologies to produce, use and inhale smoke. They invented the pipe; they also placed plants or parts of plants on hot coals in hearths, or even on the hot stones of sweat lodges; they made cones of birch bark to direct the medicated smoke toward their nostrils (Great Lakes and Prairies) or rolled leaves into cigarettes (Midwest).

As far as North America is concerned, it must be remembered that Aboriginal cultures and languages are very different from each other (much more so than the various European cultures and languages, for instance) and that there is no such thing as an American Indian religion, tradition or even smudging ritual; instead there are Ojibwa Midewiwin traditions, Dene healing rituals, Blackfoot smudging ceremonies, and so on. Smudging is not done everywhere with the same intensity or frequency or with similar materials. Some peoples, like the northern Dene, use only a few chosen plants. Others, like the Algonquian-speakers of the woodlands, have developed a whole pharmacopoeia that is further applied in their shamanic practice. Other groups, on the Pacific Coast for instance, have completely divorced the work of herbalists from shamanic practices. Furthermore, the same plant can have different uses and meaning in different places.

In the Great Plains two main principles are observed: Medicine and Cleansing. Medicine deals with maintaining physical and spiritual health. Cleansing, or purifying, refers to the conditions necessary to approach the sacred, that is the removal of anything offensive to spirits or animals, and especially human smell (Hellson and Gadd, 1974: 4-5).

Among the Dene, ritual smoke is used to keep dangerous influences away, to provide a sweet-smelling atmosphere and to make animals, as well as weapons and tools that have been in contact with these animals and other spiritually powerful substances, less dangerous to human beings. A person returning from a successful hunt, especially if a spiritually powerful animal has been killed, should go through the smoke of a smudge fire to protect the children of the camp. Healing and dreaming rituals call for similar precautions.

Along the Northwest Coast of Canada, a number of very different complexes are found side by side. Smell is again an important consideration for ritual life. Ritual or medicinal smudging is not used very often (bathing is more common). Smoke is mostly for domestic use.

Along the Arctic Coast, and the Bering Strait, the Inuit and their neighbours used smoke primarily against insects and to provide a pleasant atmosphere. But much research needs to be done to complete this quick picture.

If smudging has different meanings in different cultures and localities, the act itself remains similar; the plants themselves reveal a remarkable tendency to bridge the continents. The local subarctic and arctic plants that are smudged in North America often have relatives on other continents, at least in the Northern Hemisphere. One result of this research is to attract attention to a potential circumboreal smudging tradition that would take us from Greenland to Canada and Alaska to Siberia and to Northern Europe.

The following list includes plants found in a circumboreal range, and used by people all around the Arctic Ocean while being smudged at least in North

America and in Northern Europe. It is hoped that this first inventory will lead to information concerning smudging and the use of plant smoke in Northern Asia, Siberia and other regions for which data are scarce.

Part II. Circumboreal Smudging Plants Inventory

Alder, Red Alder – Aulne, aunet

Alnus rugosa, A. rubra (Red Alder), A. serrulata (Hazel Alder), A. tennifolia (Mountain Alder), A. glutinosa (in Europe).

Angelica – Angélique

Angelica archangelica (Europe), A. atropurpurea (America), A. dawsonii, A. sinensis (China), etc.

Ash, White Ash, Bird's Tongue – Frêne, frêne à manne

Fraxinus americana (White Ash), F. ornus, F. Latifolia (Oregon Ash), F. Excelsior (the European Ash or Bird's Tongue), etc.

Aspen, Quaking Aspen; Large Toothed Aspen; White Poplar – Tremble, peuplier tremble, aubeau; Peuplier blanc

Populus tremuloides, P. grandidentata, P. alba

Aster - Aster

Aster umbellatus (Flat Topped White Aster), A. novae-angliae (New England Aster), A. cordifolius (Common Blue Wood Aster), A. nemoralis, A. puniceous (Red Stalked or Purple Stemmed Aster), A. macrophyllus (Large Leaved Aster), A. nemoralis (Bog Aster), etc.

Avens, Bennet, Clove Root – Benoîte officinale, herbe à saint Benoît

Geum urbanum (Yellow Avens), G. canadense (White Avens) (Eastern Redroot), G. rivale (Water Avens or Purple Avens), G. triflorum (Long-plumed Avens or Prairie Smoke), G. rossii, G. macrophyllum, etc.

Balsam Fir, Canada Balsam – Sapin baumier

Abies balsamea, A. frasei (Fraser Fir)

Balsam fir needles and resin (or balsam or gum) are ideal substances for smudging. The gum can placed on hot stones until it melts and produces fumes; or a decoction of the root may be sprinkled on the stones of a sweat lodge to produce a "medicated steam bath" that seems to have been known among most Eastern Woodlands Aboriginal people often as a cure for respiratory illnesses and colds (Harlan Smith 1933: 378). In Siberia, fir trees are considered with enormous respect. Balsam fir, a North American variety of the fir tree, became rapidly popular in Europe. Some of the first French travellers to explore Canada brought fir balsam back to France and to Paris where it was considered for a time a good substitute for Frankincense, good enough for the Notre Dame cathedral in Paris.

Bayberry, Wax Myrtle, Tallow Shrub, Candleberry; Sweet Gale – Myrique cirier; Cirier de Pennsylvanie, myrice de Pennsylvanie; Myrique baumier
Myrica cerifera, M. pensylvanica, Myrica Gale

Birch, Paper Birch, Canoe Birch; Black Birch; Yellow Birch – Bouleau, bouleau à papier; Bouleau noir; Bouleau blanc; Bouleau flexible
Betula papyrifera (Paper Birch, Silver Birch),B. lenta (Sweet Birch or Cherry Birch or Black Birch), B. populifolia or alba (White Birch), B. pumila (Dwarf Birch), B. lutea (Yellow Birch), etc.

Bluebells, Mertensia - Mertensie bleue
Mertensia paniculata (Tall Bluebell - Northern Prairies, Eastern North America), M. alpina (Alpine Bluebell - Rockies), M. ciliata (Mountain Bluebell), etc.

Blueberry – Bleuet; Myrtille; Airelle
Vaccinium myrtillus, V. angustifolium (Early or Low-bush Blueberry), V. corymbosum (High Bush Blueberry),V. mirtilloïdes (Late Low-bush Blueberry, Downy Blueberry).

Bracken Fern, Brake – Fougère à l'aigle, ptéridium des aigles, ptérie
Pteridium aquilinum

Calamus, Sweetflag, Sweet Rush, Acore, Flag Root, Muskrat Root, Myrtle Flag – Acore roseau, acore aromatique, belle angélique, roseau aromatique

Acorus calamus, A. americanus

Cedar, Eastern Arborvitae, White Cedar, Northern White Cedar, American Arborvitae, Thuja – Cyprès, cèdre blanc

Thuja occidentalis

Clover, Red Clover – Trèfle rouge, trèfle des prés

Trifolium pratense, T. repens (White Clover), T. hybridum (Alsike Clover), T. agrarium (Yellow Clover), T. procubens (Low hop-clover)

Coltsfoot, Coughwort, Horse-foot – Tussilage, pied-de-cheval, pas-d'âne

Tussilago farfara

Columbine, Wild Columbine – Ancolie du Canada

Aquilegia canadensis, A. vulgaris

Corydalis, Golden Corydalis; Pale Corydalis, Evergreen Corydalis – Corydale dorée; Corydale rose, corydale pale

Corydalis aurea, C. sempervirens

Cow Parsnip; Masterwort, Keck, Hogweed – Berce très grande, berce laineuse, poglus, branc d'ours, patte de loup, patte d'ours, panais sauvage; Berce blanc ursine

Heracleum lanatumm (Cow Parsnip), H. maximum, H. sphondyllium (in Europe), etc.

Cranberry, Small Cranberry; Large Cranberry, American Cranberry – Canneberge, petit atoca, ataca, canneberge commune, mocoque; Canneberge à gros fruits, gros Atoca

Vaccinium oxyccocos or Oxycoccus microcarpus (Small cranberries), V. macrocarpon (Large cranberries)

Cudweed, Fragrant Cudweed, Sweet Everlasting, Rabbit Tobacco Sweet White Balsam – Gnaphale à feuilles obtuses, gnaphale odorante, herbe blanche, œil de chien, pied-de-chat, immortelle douce; gnaphale dioïque

Gnaphalium obtusifolium, G. dioïca

Dogwood, American Dogwood, Flowering Dogwood, Boxwood; Pacific Dogwood;

Red-osier Dogwood, Grey Willow; Alternate-leaf Dogwood; Red Willow, Silky Cornel, Swamp Dogwood – Cornouiller, Cornouiller américain; Cornouiller stolonifère, hart rouge

Cornus florida, C. nuttallia (Pacific Dogwood), C. stolonifera (Red-osier Dogwood), C. alternifolia (Alternate-leaf Dogwood), C. amomum (Red Willow), etc.

Elder, Canadian or Common Elder; Black Elder – Sureau yèble, sureau commun, sureau blanc; sureau noir

Sambucus canadensis (White Elder), S. nigra (Black Elder)

Fir, Alpine Fir (Sweet Pine) – Sapin

Abies lasiocarpa, A. amabilis

Fireweed, Great Willow Herb – Épilobe à feuilles étroites, lilas de montagne, asperge des bois, laurier de Saint Antoine.

Epilobium angustifolium

Fleabane, Canada Fleabane, Horseweed; Daisy Fleabane, Rough Fleabane; Sweet Scabious; Yellow Fleabane – Vergerette, Érigéron du Canada; Vergerette rude, érigéron hispide; Vergerette annuelle; Vergerette jaune

Erigeron canadensis (Canada Fleabane or Horseweed), E. strigosus (Daisy Fleabane, Philadelphia Fleabane),E. annuus (Sweet Scabious), E. linearis, etc.

Goldenrod; Canada Goldenrod; Fragrant Goldenrod; Seaside Goldenrod; Elm-leaved Goldenrod – Verge d'or, solidage; Verge d'or du Canada; Verge d'or odorante; Verge d'or toujours verte, Solidage à feuille d'orme

Solidago virga aurea, S. canadensis, S. odora (Sweet Golden Rod), S. sempervirens (Seaside Goldenrod), etc.

Hawthorn, Haw, Mayblossom, Meddlar – Aubépine, cenellier.

Cratœgus oxyacantha, (English Hawthorn), C. succulenta (Long-spined White Thorn), C. rotundifolia (Round-leaved Hawthorn), etc.

Hemlock, Eastern Hemlock; Western Hemlock - Épinette

Tsuga Canadensis, see also T. heterophylla, T. mertensiana, T. caroloniana, T. chinensis, T. diversifoilia, etc.

Huckleberry, Black Huckleberry or High Bush Huckleberry

Gaylussaccia baccata

Juniper, Dwarf Juniper, Savin, Creeping Cedar - genévrier, savine (savinier), genève

Juniperus communis, J. horizontalis, J. virginiana (Eastern Red Cedar), J. scopulorum (Rocky Mountain Juniper), etc.

Remarkably, the ceremonial uses of juniper are similar from one end of circumboreal range to another; it is seen everywhere as a potent symbolic or actual component of rituals, especially in shamanic contexts, whether in North America (including Alaska), Siberia or Northern Europe. The needles, twigs or roots are ceremonially burnt in a large variety of ritual situations, from purifications to dealings with the dead, the spirits, or the dream world. Even in Europe, juniper is traditionally handled with respect, while its smoke was considered a good substitute for exorcism rituals. It was used as smudge during the Middle Ages to get rid of bad spirits and to protect the population against epidemics. In France, fresh juniper leaves, and sometimes berries, were used to fumigate hospitals well into World War II.

Labrador Tea, Woolly Tea - Thé du Labrador, Lédon du Groenland; lédon palustre

Ledum groenlandicum, L. latifolium, L. decubens, L. palustris (in North America and Europe)

Larch – Tamarack, mélèze

Larix laricina, L. americana

Linden, Lime; Basswood- Tilleul

Tilia americana, T. cordata, T. europaea, T. oliveri, T. platyphyllos, T. tomemtosa, T. petiolaris, etc.

Lovage, Licoriceroot, Osha, Indian Marijuana – Livèche indienne, livèche de Canby, Osha. Réglisse sauvage

Ligusticum canbyi, L. verticillatum, L. filicinum, L. caanadense, etc.

Lupin – lupin bleu

Lupinus perennis, L. luteolus, etc.

Meadow Rue, Purple Meadowrue, Bastard Rhubarb; Early Meadowrue; Western

Meadowrue – Pigamon pourpre, rue des prés violette

Thalictrum dasycarpum, T. dioicum, T. occidentale, T. sparsiforum, etc.

Mugwort, Armoise, Artemisia, Common Wormwood – Armoise commune, armoise citronnelle, couronne ou ceinture de Saint Jean, herbe royale

Artemisia vulgaris (Mugwort)

Mullein, Common Mullein, Flannel Plant, Aaron's Rod, Peter's Staff, Shepherd's Club – Bouillon blanc, molène commune

Verbascum thapsus (Common Mullein), V. thapsiform, V. phlomoides

Pearly Everlasting – Anaphale Immortelle

Anaphalis margaritacea

Pine, White Pine; Red Pine, Norway Pine; Virginia Pine – Pin sylvestre; pin blanc; pin résineux; pin de Virginie

Pinus sylvestris, P. strobus (Eastern White Pine), P. resinosa (Red Pine or Norway Pine, though a North American species), P. contorta (Lodgepole Pine), P. virginiana, P. ponderosa (Ponderosa or Western Yellow Pine), etc.

Pipsissewa; Prince's Pine – Chimaphile à ombelle, herbe à peigne; Chimaphile maculée

Chimaphila umbellata (Pipsissewa), C. maculata (Striped Prince's Pine)

Polypore, Bracken Fungus; Larch Polype;Tinder Polypore, Bracket Fomes – Polypore; Polypore du mélèze

Polyporus, Fomitopsis officinalis, Fomes fomentarius, F. igniarius

Poplar – Peuplier

Populus canescens, P. jackii, P. nigra, etc.

Puffball, Gem-studded Puffball – Vesse-de-loup

Lycoperdon perlatus

Pussytoes, Rosy Pussytoes, Everlasting – Antennaire rose

Antennaria rosea

Rose; Prickly Rose; Prairie Rose, etc. - Rosier; Églantier, etc.

Rosa gallica (French Rose), R. acicularia (Prickly Rose), R. arkansana

(Cockerell, Cattle Rose or Prairie Rose), R. gymnocarpa (Dwarf Wild Rose), R. nutkana (Nootka Rose), R. pisocarpa (Cluster Rose), R. woodsii (Wood's Rose), R. centifolia, R. canina (Wild Rose), etc.

Rue, Common Rue – Rue odorante

Ruta graveolens

Sagebrush, Desert Sage; Pasture Sage; Sagewort; Western Sagebrush – Grande Armoise; Armoise des prés

Artemisia tridentata (Big Sagebrush, Desert Sage), A. frigida (Fringed Sagewort, Pasture Sage, Mountain Ball Sage), A. ludoviciana (Louisiana Sagewort, Western Sage, Western Mugwort, White Mugwort)

Spikenard, American Spikenard; Wild Sarsaparilla, Small Spikenard, Spice Bush, Old Maid's Root – Aralie à grappes, grande Salsepareille; Aralie à tige nue

Aralia racemosa (American Spikenard), A. nudicaulis (wild Sarsaparilla)

Spruce, White spruce - Sapin, épicéa

Picea glauca (White Spruce), P. abies (Norway Spruce), P. rubens (Red Spruce), P. sitchensis (Sitka Spruce), P. obovata (Siberian Spruce), P. omorika (Serbian Spruce), etc.

Squasberry, Pimbina, Moose Berry, Viburnum – Viorne comestible, pimbina, piminan

Viburnum edule

Squaw Bush; Appalachian Tea – Alisier, bourdaine, bleuets nains, Viorne cassinoïde

Viburnum nudum or V. cassinoides, V. opulus (High-bush Cranberry, a European variety), etc.

Sweet Grass, Vanilla Grass – Hierochloé odorante, herbe aux Sénécas, foin d'odeur, herbe sainte

Hierochloe odorata

More than 16 species of Hierochloe grow in the Arctic and Subarctic, three of which are found in North America. For the American Aboriginal people, sweet grass is, like tobacco, "prayer in a visible form." It is smudged today by Native American people throughout Canada and the United States; it is kept in medicine bundles and is an essential part of all the great ceremonial cycles of the Prairie

and Woodland Indian societies, among others. For the European people, Vanilla Grass was a holy grass (hence its Latin name). In Germany, according to local customs, it was strewn on the doorsteps of the churches.

Uva-ursi, Bearberry, Mountain Tobacco, Jackashepuck – Arctostaphyle, arbousier busserole, raisin d'ours, Sagakomi

Arctostaphylos uva-ursi, A. alpina, etc.

Valerian, Garden Heliotrope, Tobacco Root, All-Heal – Valériane officinale

Valeriana edulis (Edible Valerian), V. officinalis, V. dioica (Woods or Mountain Valerian), V. capitata (Capitate Valerian), V. sitchensis (Sitka Valerian), etc.

Veronica, Gypsyweed; Purslane Speedwell; Thyme-leaved Speedwell - Véronique officinale; Véronique à feuille de serpolet

Veronica officinalis, V. peregrina

Willow, Black Willow, White Willow, Pussy Willow, Osier – Saule noir, saule blanc, saule discolore, osier

Salix nigra (Black Willow, an American species), S. alba (White Willow, a European species), S. fragilis, S. purpurea (Purple Osier), S. viminalis (Common Osier), S. Cinerea (Common Willow), S. discolor (Pussy Willow), etc.

Wormwood, Absinthe Sagewort – Absinthe officinale, armoise absinthe, almine, alvine

Artemisia absinthium

Common Yarrow, Achillea, Knight's Milfoil – Achillée mille-feuille, achillée sternutatoire, herbe à la fièvre, herbe militaire

Achillea millefolium, A. ptarmica

American Yew, Canada Yew, Ground Hemlock; English Yew; Pacific Yew - If du Canada

Taxus canadensis (Canada Yew), T. baccata (English Yew), T. brevifolia (Pacific Yew)

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Human Activity Versus Sustainable Environment

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What is a sustainable environment?

The definition of sustainability varies depending on the purposes of those who use it. The economists' definition would be based on benefits, sociologists' on the well-being of people (Simonovic *et al.*, 1997), ecologists' on ecosystem resistance or resilience (Vilchek, 1998). In attempts to make the definition of sustainable environment understandable and acceptable on a more common level and especially for a women's audience, where women of many backgrounds come to communicate their common threads, I have come to the following wording:

> Sustainable environment is the environment that fulfils our present needs without