

PLANTS IN LANGUAGE AND CLASSIFICATION AMONG BC FIRST NATIONS

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INTRODUCTION

THIS ARTICLE PROVIDES an overview of systems of naming and organizing categories of plants among Indigenous languages and cultures of British Columbia, using tools provided through the fields of ethnobotany, linguistics, and anthropology.

The ways in which people name, conceptualize, and organize the plants and animals in their environments have been of interest to ethnobiologists for many decades, especially since the mid-1950s (Brown 2010; Conklin 1954; Hunn and Brown 2011; Nazarea 1999). This area of inquiry, known variously as ethnoscience, folk biological classification, or folk biological taxonomy, had its beginnings mainly through cognitive anthropology (Lévi-Strauss 1966; Tyler 1969), with connections to biological taxonomy and cognitive linguistics. It parallels investigations of other domains of classification, such as the variation in recognition and use of colour terminology, as well as in kinship terms. Early work by Conklin (1954) and others was followed by a long-standing and intensive series of studies by Brent Berlin and his colleagues (Berlin 1972, 1992, and numerous others), culminating in Berlin's book *Ethnobiological Classification* (1992), in which he proposes a series of "universal principles" of ethnobiological nomenclature and classification.

Researchers studying folk biological classification are interested in factors influencing plant and animal nomenclature, and shaping ethnobiological classification systems (cf. Hunn and Brown 2011 for overviews). Do these systems reflect our intellectual need and natural propensity to name and classify the different organisms we encounter? Are our human minds "wired" to make these distinctions, to recognize

the discontinuities in nature? Or, alternatively, do we simply focus on and distinguish those things that are salient and useful to us and name them to facilitate communication (Hunn 1982)? This classic “intellectual” versus “utilitarian” theoretical deliberation on ethnobiological classification is still unfolding (Nazarea 1999). Research on Indigenous knowledge systems has contributed significantly to the debate (Hunn and Brown 2011). This article draws on the fields of linguistics, anthropology, and ethnobotany, and it shows how these disciplines have been brought together in describing Indigenous knowledge systems relating to the naming and classification of plants over the past 120 years or so in British Columbia.

A number of early ethnographic studies in northwestern North America have inventoried plant names and ethnobotanical knowledge of individual speech communities and language groups (e.g., Boas 1921; Swanton 1905; Steedman 1930; Gunther 1973 [1945]; Smith 1920–23; Smith 1928), although they seldom considered the higher order taxa or classification systems for plants in any explicit or systematic way. Studies focusing particularly on classification have mostly been undertaken since the 1970s. The ways in which plants are categorized and named help us to understand interrelationships between language, cognition, memory, survival, and world view. Overall, ethnobotanical classification systems represent the tremendous richness of ancient collective knowledge, much of it encoded in languages. Thus, for British Columbia’s First Peoples, these systems are of great importance as elements of the languages, cultures, and heritage of our province.

In the following section, we provide a brief overview of the Indigenous languages of British Columbia. We then review some of the studies of ethnobiological naming and classification that have been undertaken in the province. Descriptions of some of these taxonomic systems and their key characteristics follow. We make specific reference to the hierarchical arrangement of plant categories and to the ways in which categories can either expand to include more members or become more restricted as the relative importance of plants changes over time or as people encounter new plants and environments. We then discuss the ways in which plant names can be borrowed by one language group from another and how they sometimes change in meaning, or reference, as they move from language to language, or as circumstances for the speakers of the languages change. Finally, we describe changes in plant classification systems during the recent colonial period, when a wide range of new species was introduced.

INDIGENOUS LANGUAGES OF BRITISH COLUMBIA

The Indigenous peoples of British Columbia speak over thirty distinct languages or major dialects (see Figure 1 in the Introduction to this volume), which are, in turn, classified within several language families: Na-Dené, Tsimshianic [Ts'msyenic], Wakashan, Salishan, and the isolates Haida and Ktunaxa, which have no identified linguistic relatives. Na-Dené includes Tlingit, which is spoken on the Coast but also extends into Alaska, and numerous Dene (Athabaskan) languages, whose territories extend from the Subarctic almost to the Arctic Ocean and eastward across Canada as far as Hudson Bay. There are also Dene (Athabaskan)-speaking peoples and their descendants in restricted coastal areas in southern Oregon and northern California, and in the southwestern United States. Tsimshianic and Wakashan peoples reside mainly in the coastal regions of the study area, while Salishan peoples are represented both in the coastal and southern interior areas of British Columbia and extend into Washington, Idaho, and Montana (and, formerly, into Oregon as well). Haida is spoken on Haida Gwaii and in southeastern Alaska, while the Ktunaxa are settled in the southeastern part of British Columbia and the neighbouring United States.

Tlingit, Tsimshianic, Wakashan, coastal Salishan, and Haida fall within the Northwest Coast cultural area, while the interior Salishan groups fall into the Plateau area, together with the Ktunaxa, although the latter also have strong affiliations with Plains cultures. British Columbia's Dene (Athabaskan)-speaking peoples occupy the Subarctic culture area, although the Tsilhqot'in are often considered transitional to the Plateau area.

Details regarding the linguistics and cultural affiliations of BC Indigenous peoples are given in Helm (1981); Suttles (1990); Thompson and Kinkade (1990); Walker (1998); and Yinka Déné Language Institute (2007). In the fur trade era of the early 1800s, Cree-speaking peoples came into the province and a few are living in communities in the northeastern region.

In most cases, these languages incorporate names for between about 120 and 150 different species of plants as well as many higher order plant names. Many of these names originated in ancestral "proto-languages," often reflected by related, or cognate, names for the same or similar species in sister languages (cf. Kuipers 2002 for Salishan). There are also many instances of plant names and terms being borrowed, or loaned, from one language to another (Turner in press).

ETHNOBIOLOGICAL NOMENCLATURE AND
CLASSIFICATION STUDIES IN BRITISH COLUMBIA

Studies of ethnobiological classification and nomenclature of BC First Nations have contributed to our overall understanding of how people name and classify plants and animals in their environments. The first studies focusing explicitly on ethnobiological classification were based on the ideas and approaches of Berlin (cf. 1972, 1992) and colleagues (cf. Turner 1974). Our experiences suggested that the detailed series of questions to Indigenous experts, as promoted by other researchers in ethnobiological classification (Tyler 1969), were not particularly successful. Repeated questions for each type of plant, such as “What is this [X]?” “What is X a kind of?” “Are there different kinds of X?” may yield information about classification systems, but they are tedious and irrelevant to many Indigenous experts. Inferences drawn from the context of discussions and conversations, and from names of plants and botanical categories themselves, have been more effective in revealing the ways in which plants (as well as fungi and algae) are named and classified (Turner 1974). Simply having people talk about the plants and their relationships from their own cultural perspectives provides many insights.

In British Columbia, most studies that have focused on ethnobotanical nomenclature and/or classification were based on primary information documented during general ethnobotanical research or from compilations drawn from secondary sources (e.g., Brown 1984; Hunn 1982; Hunn and French 1981; Johnson 1994; Turner 2003, 2004; Turner and Brown 2004). Methods used consisted of interviews with Indigenous language speakers and knowledge holders about names and uses of particular plants, and relationships between plants and broader taxonomic categories. Understanding nomenclature can only come from knowing the vocabulary and meanings of terms in particular languages, and much of the linguistic work in ethnobiological nomenclature and classification has been conducted by linguists specializing in certain languages, including native speakers and language specialists (e.g., Turner and Efrat 1982; Turner et al. 1983; Turner, Bouchard, and Kennedy 1980; Turner et al. 1990). Historical linguistics and comparative linguistic studies have also been important in British Columbia as elsewhere (cf. Kuipers 2002).

In the early 1970s, following the concepts and methodologies of Berlin and his colleagues, Turner and Van Eijk, working with other linguists (Bouchard, Kuipers, Levine, Nater), undertook to document the plant

classification systems of Haida, Nuxalk, and Stl'atl'imx (Lillooet) (Turner 1974). This comparative research suggested that common linguistic ancestry (as between the Salishan languages of the Nuxalk of the central coast and Stl'atl'imx of the middle Fraser River) had a greater effect on people's plant classification systems than did environmental similarity (e.g., between Haida and Nuxalk, distinct and unrelated language groups, whose territories are ecologically similar). Haida, Bella Coola (Nuxalk), and Lillooet (Stl'atl'imx) languages seemed to conform generally to Berlin's (1992) proposed "universal" classification structure. However, the BC languages have significantly smaller vocabularies of basic ("folk generic") plant names (approximately one hundred to two hundred terms) than is typical among subtropical and tropical agrarian groups (approximately five hundred terms [see Berlin 1992]). This is consistent with other ethnobotanical vocabularies of language groups in temperate, non-agricultural regions with less diverse flora and with classification systems that are generally smaller and less complex hierarchically (Hunn et al. 1990; Turner 2004; Turner et al. 1980).

PLANT CLASSIFICATION AND NOMENCLATURE OF BC FIRST NATIONS

For BC First Nations, there is a notable commonality in the types of plants (as well as fungi and algae) that are recognized and named, although there are also many uniquely named plants. A general survey of over fifty languages and major dialects of Indigenous peoples of northwestern North America revealed some 260 species (and closely related groups of species) that were named in three or more Indigenous languages of British Columbia. An even larger number (about 280 species) were named in only one or two languages (Turner in press).

Hierarchies of Taxa in BC Indigenous Plant Classification

The overall organization of plant categories, or taxa, in BC First Nations languages tends to follow a shallow hierarchical arrangement, similar to that of everyday English language. Major taxa include lesser taxa in a short series of levels, or ranks. In English folk taxonomy (as opposed to non-Aboriginal scientific taxonomy),¹ the all-inclusive category

¹ It is important to recognize that "folk taxonomies," whether the classification systems of everyday English speakers or of Indigenous peoples or others, function very well as systems of organizing, naming, and communicating to others in society about living things; however, these "folk" systems have a different role from the non-Aboriginal scientific biological taxonomic system, which has a mandate to distinguish, classify, and name every living thing

“plant” is fairly definitive for most people, who, for example, would be able to distinguish easily between a “plant” and an “animal,” with an outlying general group of fungi or mushrooms.² In our everyday lives, we recognize a number of broad subcategories: trees, bushes, herbs, or herbaceous plants (sometimes also just called “plants”), grass, ferns, and so forth. Within some of these (generally mutually exclusive) categories, there may be a small number of broad subcategories (e.g., evergreen tree), but mostly there is an array of multiple, restricted subcategories – the basic “kinds” of plants – which often correspond with scientific species or groups of related species, such as oak or dandelion. Some of these basic categories are further delineated: for example, red oak, white oak, common dandelion.

First Nations plant categories and patterns of naming tend to follow such a hierarchical arrangement. For speakers of Indigenous languages in British Columbia, although an overarching concept of “plant-ness” is evidently widely recognized (e.g., through the use of a “plant” suffix and through general conversation that indicates various plants as being part of a common set), there is seldom an all-encompassing term for “plant.” And even in cases in which there might be a general term for “plant,” what might be included within the designation can vary from person to person or language to language. “Seaweeds” (marine algae) are generally associated with green, leafy plants but might be named in a way that contrasts them with (terrestrial) plants. In some cases, plants, while not actually named, are characterized under a descriptive phrase such as “things that grow” (Turner 1974, 1987).

In discussions about plants and animals in general, Okanagan elder Selina Timoyakin shared a classification of “living things,” including various categories of what would be classed as plants, drawn from her own traditions (Figure 1). Significantly, she included “rocks” in her scheme since, in the world view of Okanagan and other First Nations, rocks are considered “beings.”³

around the planet in relation to its evolutionary relationships. Therefore, these two types of taxonomies have different purposes and different structures.

² Even within botanical science, the concept of “plant” is not always definitive. Fungi, Lichens, and Algae are now considered separate from Bryophytes, and from Vascular plants, although less than a century ago these groups were all classified within a common “Plant Kingdom.”

³ In First Nations traditional narratives, stars, wind, rivers, and mountains are also seen as actors within the living world, beings in one phase of their existence that have agency and spirit just as do trees, berry bushes, bears, geese, salmon, and humans. This view of relationships of all other entities with humans is referred to as kincentricity, or kincentric ecology (cf. Dennis Martinez, personal communication, 2006; Turner 2005).

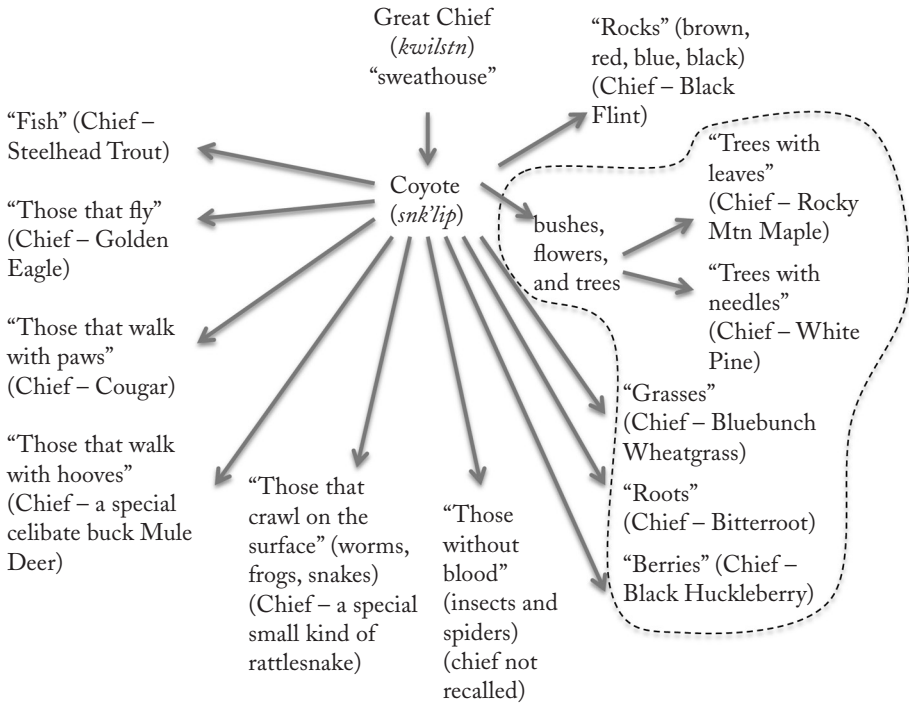


Figure 1. The domains and their chiefs in Okanagan cosmology (as contributed by Selina Timoyakin in Turner 1974, 79). Note: dotted line indicates those domains that, collectively, would be widely considered by most English speakers to be in the "Plant" universe. Some of these categories closely align with broad scientific taxa, whereas others (e.g., "Those that crawl...") include categories that are only distantly related.

As in the Okanagan example, BC Indigenous languages tend to include general named categories for "tree," "bush," and "grass and grasslike plants" that are based on large-scale morphological features,⁴ such as size and habit, although these may simultaneously reflect utilitarian traits (e.g., trees often equate with firewood and construction materials [see Hunn 1982]). These broad subcategories (Berlin's 1992 "life form" taxa), in turn, encompass more restricted taxa (Berlin's "folk generics") that are mutually exclusive and that number several to many within a given "life form" category. They are considered the most basic and fundamental ethnobotanical category and are almost always named with primary terms. Often they correspond with "genus" or a distinctive species of scientific taxonomy (Turner 1974). Sometimes, in folk classification,

⁴ That is, features relating to the form and structure of organisms.



Figure 2. Gitga'at varieties of Pacific crabapple (*Malus fusca*) (Turner and Thompson 2006).

different species within a scientific genus (e.g., *Pinus*) will have their own basic “folk” term unrelated to that of other species in the genus.

In BC languages, some of the basic “folk generic” taxa are further differentiated into two or more “folk specific” categories (using Berlin’s terms) [i.e., different named varieties of a particular kind of plant, such as saskatoonberry (*Amelanchier alnifolia*) or crabapple (*Malus fusca*)]. There are probably no “folk varietals” as defined by Berlin. Some BC First Nations also recognize some mid-level categories (Berlin’s “intermediate” rank taxa) but not all these are named (unnamed, or, in Berlin’s terminology, “covert” [cf. Turner 1989]).

Table 1 provides examples from BC First Nations languages of plant taxa at each of these different ranks within a general hierarchical conceptual framework. Berlin (1992) and Brown (1984) suggest that taxa at different ranks tend to become named in a particular order, with “folk generic” rank names developing first in time, followed by general “life form” names and then names for taxa at other ranks.⁵

⁵ As noted previously, many languages do not include a name for the most inclusive taxon, corresponding to English “plant.”

TABLE 1

Examples of plant taxa at different levels of inclusiveness, or ranks, in BC First Nations languages, as drawn from ethnobotanical reference sources

The ranks follow the hierarchical categories proposed by Berlin (1992), from most general and inclusive to most distinctive. (Note: the writing systems used in this table generally follow those of the original sources, where these are “practical systems” based mainly on characters in the English alphabet. In all cases, the reader should refer to the original sources to ensure complete linguistic accuracy [note that “ʔ” is a glottal stop].)

RANK (FROM MOST GENERAL AND INCLUSIVE TERMS TO MOST SPECIFIC AND RESTRICTED)	EXAMPLES OF CORRESPONDING TERMS/ LEXICAL ELEMENTS FROM VARIOUS LANGUAGES	REFERENCE
I. Most general rank (suffix indicating ~“plant”) ⁱ	Nuu-chah-nulth (Hesquiaht): <i>tl’aqapt</i> – plant (general); also generic rank name for kinnikinnick, <i>Arctostaphylos uva-ursi</i> ; Note: <i>tl’aqapsuʔisim</i> [“plant that grows under (ocean)” – for seaweeds, gen.]	Turner and Efrat 1982; Turner 1987
I. Most general rank (suffix indicating ~“plant”)	Haida (Skidegate): - <i>xil</i> (suffix denoting “leaves, leafy plant”) cf. <i>xil</i> ‘leaf/medicine’; <i>xil sgunxulaa</i> ‘fragrant leaves/plant/medicine’ (for yarrow, <i>Achillea millefolium</i> and related aromatic plants); applied widely but not universally in Haida plant names	Turner 1974, 1987, 2004
I. Most general rank (suffix indicating ~“plant”)	Nuxalk: - <i>lhp</i> (suffix denoting “tree/bush,” “plant”) [e.g., <i>kwululuuxwu</i> (wild strawberries, <i>Fragaria</i> spp.); <i>kwulu-luuxwu-lhp</i> (strawberry plant)]; versions of this suffix are found in all Salishan languages (Kuipers 2002; Turner, Ignace and Compton 1998)	Turner 1973, 1974, 1987; cf. also Turner et al. 1990; Turner and Hebda 2012
I. Most general rank (suffix indicating ~“plant”)	Ditidaht: - <i>apt</i> (suffix denoting “tree/bush,” “plant”) [e.g., <i>tutubuqwsapt</i> (lit. ‘standing-in-the-water plant’); versions of this suffix are found in all Wakashan languages	Turner et al. 1983; Turner 1987
II. Broad subcategory within “plant”; corresponding with “life form” rank of Berlin (1992) (cf. Turner 1987)	Dakelh (Saik’uz): <i>tl’o</i> – grass, hay, marijuana (general)	Poser 2008

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II. Broad subcategory within “plant”: “life form”	Nisga’a: <i>hap’iskw</i> (grass, sedge) (general)	Burton 2012
II. Broad subcategory within “plant”: “life form”	Nisga’a: <i>majagalee</i> (flower) (general)	Burton 2012
II. Broad subcategory within “plant”: “life form”	Ts’msyen: <i>müdzagalee</i> – flower/house plant (general)	Turner and Thompson 2006
II. Broad subcategory within “plant”: “life form”	Nlaka’pamux: <i>syiq-m</i> – grass (general)	Turner et al. 1990; Turner 1987
II. Broad subcategory within “plant”: “life form”	Okanagan-Colville: <i>swupúla7xw</i> (lit. ‘ground-hair/growth’) – grass/low leafy growth (general)	Turner et al. 1980
II. Broad subcategory within “plant”: “life form”	Straits Salish (Saanich): <i>q’ə’ch’əy7</i> – mosses, lichens (general)	Turner and Hebda 2012
II. Broad subcategory within “plant”: “life form”	Nisga’a: <i>bilak</i> – mosses and dry soft lichens	Burton 2012
II. Broad subcategory within “plant”: “life form”	Dakelh (Saik’uz): <i>imbenidzo</i> – mushroom (general)	Poser 2008
II. Broad subcategory within “plant”: “life form”	Nisga’a: <i>gayda ts’uuts’</i> (mushroom with caps)	Burton 2012
II. Broad subcategory within “plant”: “life form”	Stl’atl’imx, or Lillooet: <i>sgáp</i> – “tree, general” (lit. ‘something standing, put upright’) (see name for Douglas-fir, <i>Pseudotsuga menziesii</i> , below)	Kuipers 1974, 1989; Turner 1987
II. Broad subcategory within “plant”: “life form”	Nisga’a: <i>gan</i> (tree)	Burton 2012
II. Broad subcategory within “plant”: “life form”	Nlaka’pamux: <i>muyx</i> – “tall bushes” (originating from Proto-Interior Salish term for cottonwood, <i>Populus balsamifera</i>) (cf. <i>mulx</i> “stick” in Stl’atl’imx)	Turner et al. 1990; cf. also Kinkade 1989; Kuipers 2002; Turner et al. 1998

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II. Broad subcategory within “plant”: “life form”	Nisga’a: <i>hlgugan</i> – “shrub, bushes” (<i>hlgu</i> means ‘small’; <i>gan</i> is ‘tree/wood’)	Burton 2012
II. Broad subcategory within “plant”: “life form”	Nisga’a: <i>damtx</i> (ferns)	Burton 2012
III. Midlevel or “intermediate” rank category (cf. Berlin 1992; Turner 1989) ⁱⁱ	Haida (Massett): <i>kiiid</i> – “evergreen tree”; also Sitka spruce (<i>Picea sitchensis</i>) (a polysemous term)	Turner 2004
III. Midlevel or “intermediate” rank category name	Stō:lo, or Upriver Halkomelem: <i>skous</i> – “potato; edible tuber or root” (cf. Proto-Salish <i>s-qawts</i> (Indian) potato)	Galloway 1982; cf. also Kuipers 2002
III. Midlevel or “intermediate” rank category name	St’at’imc/Stl’atl’imx (Lillooet): <i>qwláwaw</i> – “onions” (including domesticated onions and wild onions) (cf. <i>qwláwa-wúl</i> ‘real/original onion,’ for nodding onion <i>Allium cernuum</i>)	Turner, et al, 1987; Turner 1989
III. Midlevel or “intermediate” rank category name	Nuu-chah-nulth (Hesquiaht): <i>sachk-mapt</i> (lit. ‘sharp plant’) – thistles (<i>Cirsium</i> spp.), blackberries (<i>Rubus ursinus</i>), and other spiny or thorny plants (similar term in Ditidaht)	Turner and Efrat 1982; Turner 1989
III. Midlevel or “intermediate” rank category name	Ditidaht: <i>thichsap</i> – edible roots (general); also specific name for Pacific silverweed (<i>Potentilla egedii</i>)	Turner et al. 1983
IV. Most basic plant category; “folk generic” rank name (cf. Berlin 1992)	St’at’imc/Stl’atl’imx (Lillooet): <i>syap-wúl</i> (lit. ‘real-tree’) – Douglas-fir (<i>Pseudotsuga menziesii</i>) (cf. name for tree, above: <i>syap</i>)	Turner 1987; Turner et al. (1987)
IV. Most basic plant category; “folk generic” rank name	Nisga’a: <i>simgan</i> (lit. ‘real tree’) – western redcedar (<i>Thuja plicata</i>)	Burton 2012
IV. Most basic plant category; “folk generic” rank name	Okanagan-Colville: <i>merilhp</i> (lit. ‘medicine-plant’) – subalpine fir (<i>Abies lasiocarpa</i>)	Turner et al. 1980
IV. Most basic plant category; “folk generic” rank name	Kwakwaka’wakw: <i>ham’úm’s-m’es</i> – cascara tree (<i>Rhamnus purshiana</i>) (cf. <i>ham’úm’s</i> – cascara bark)	Turner and Bell 1973

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IV. Most basic plant category; “folk generic” rank name	Ts’msyen: <i>nagaganaw</i> (lit. ‘dress/frill of the frog’) – lung lichen (<i>Lobaria pulmonaria</i>) and other foliose lichens	Turner and Thompson 2006
IV. Most basic plant category; “folk generic” rank name	Straits Salish (Saanich): <i>tl’əstíp</i> – licorice fern (<i>Polypodium glycyrrhiza</i>)	Turner and Hebda 2012
IV. Most basic plant category; “folk generic” rank name	Nisga’a: <i>ts’ak’a aam</i> – licorice fern (<i>Polypodium glycyrrhiza</i>)	Burton 2012
IV. Most basic plant category; “folk generic” rank name	Secwépemc: <i>púx^wstl’ye</i> (cf. <i>púx^wem</i> ‘to blow with the mouth’) – cinder conk fungus (<i>Inonotus obliquus</i>)	Mary Thomas, pers. comm. to NT 2001
IV. Most basic plant category; “folk generic” rank name	St’at’imc/Stl’atl’imx (Lillooet): <i>ʔús7-az’</i> – black mountain huckleberry plant (<i>Vaccinium membranaceum</i>) [cf. <i>ʔúsa7</i> ‘berry, general’; - <i>az’</i> (plant suffix)]	Turner et al. 1987; also Turner 1989
IV. Most basic plant category; “folk generic” rank name	Nisga’a: <i>simmaay</i> – black mountain huckleberry berry (<i>Vaccinium membranaceum</i>)	Burton 2012
IV. Most basic plant category; “folk generic” rank name	Nisga’a: <i>sbiks</i> – highbush cranberry (<i>Viburnum edule</i>)	Burton 2012
IV. Most basic plant category; “folk generic” rank name	Nlaka’pamux: <i>kəl’wet</i> – false Solomon’s-seal (<i>Maianthemum racemosum</i> subsp. <i>amplexicaule</i>)	Turner et al. 1990
IV. Most basic plant category; “folk generic” rank name	Haida (Skidegate): <i>xuyaa thuga</i> (lit. ‘Raven’s canoe’) – beach pea (<i>Lathyrus japonicus</i>) and giant vetch (<i>Vicia nigricans</i> subsp. <i>gigantea</i>)	Turner 2004
IV. Most basic plant category; “folk generic” rank name	Gitksan: <i>sganmaa’ya smex</i> (lit. ‘black bear berry plant’) – red baneberry (<i>Actaea rubra</i>)	Smith 1997
IV. Most basic plant category; “folk generic” rank name	Dakelh (Ulkatcho): <i>tl’otsun</i> – nodding onion (<i>Allium cernuum</i>)	Hebda et al. 1996
IV. Most basic plant category; “folk generic” rank name	Okanagan-Colville: <i>sp’its’n</i> – Indian hemp (<i>Apocynum cannabinum</i>)	Turner et al. 1980

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IV. Most basic plant category; “folk generic” rank name	Straits Salish (Saanich): <i>shiwə7 7ə tl’ stqeyə7</i> (lit. ‘wolf’s urine’) – Indian pipe (<i>Monotropa uniflora</i>)	Turner and Hebda 2012
IV. Most basic plant category; “folk generic” rank name	Kwakwaka’wakw: <i>nexwəm’és, neqw’elhm’és</i> (bush) – salal (<i>Gaultheria shallon</i>) (cf. <i>neqw’élh(i)</i> – salal berries)	Turner and Bell 1973
IV. Most basic plant category; “folk generic” rank name	Secwépemc: <i>legmín</i> – alumroot (<i>Heuchera cylindrica</i>)	Mary Thomas, pers. comm. to NT 2001
V. Most restricted category; “folk specific” rank names (cf. Berlin 1992)	Ts’msyen: <i>moolks sigawgáaw</i> (lit. ‘crow’s crabapples’); <i>gasasii</i> (lit. ‘long legs’); and <i>bu’uxs</i> (lit. ‘dice’) – all “varieties” of Pacific crabapple (<i>Malus fusca</i>) (Figure 2)	Turner and Thompson 2006
V. Most restricted category; “folk specific” rank names	Ditidaht: <i>huubaaq</i> and <i>qistuup</i> – different edible parts (leafstalks and budstalks) of cow-parsnip (<i>Heracleum maximum</i>); (many languages name these parts with different terms)	Turner et al. 1983
V. Most restricted category; “folk specific” rank names	Ditidaht: <i>bachlbeey’-apt</i> and <i>ch’ukwtlapt</i> – two varieties of yellow cedar (<i>Chamaecyparis nootkatensis</i>)	Turner et al. 1983
V. Most restricted category; “folk specific” rank names	Haida (Massett): <i>dall-xil-sgid</i> (lit. ‘red rain leaves/medicine’), for red columbine (<i>Aquilegia formosa</i>), and <i>dall-xil-gublahl</i> (‘blue rain leaves/medicine’), for blue harebell (<i>Campanula rotundifolia</i>)	Turner 2004
V. Most restricted category; “folk specific” rank names	Nlaka’pamux: <i>spəqpaq, spəqpaq-élhp</i> (lit. ‘white-white’); <i>si7h-úse7, si7huse7-élhp</i> (lit. ‘good fruited’); <i>qwu7qwu7-úse7 (tək stsáqwm), qwu7qwu7use7-élhp</i> [lit. ‘watery-fruit’ (Saskatoonberry)]; <i>snk’y’ep-úpse7</i> (lit. ‘little coyote berry’); <i>təxtəx-óxse7</i> (lit. ‘little bitter berry’); <i>tl’əxwixw-úse7</i> (lit. ‘little sweet berry’); <i>nəq’naq’-óqw’sse7</i> (lit. ‘little-rotten-berries’) – all varieties of Saskatoonberry (<i>Amelanchier alnifolia</i>) (equivalent terms in Stl’atl’imx)	Turner et al. 1990

RANK (FROM MOST GENERAL AND INCLUSIVE TERMS TO MOST SPECIFIC AND RESTRICTED)	EXAMPLES OF CORRESPONDING TERMS/ LEXICAL ELEMENTS FROM VARIOUS LANGUAGES	REFERENCE
V. Most restricted category; “folk specific” rank names	Straits Salish (Saanich): <i>pəlpəq'xəliqw</i> (lit. ‘white ones’); <i>nəq'ix</i> (lit. ‘black’); <i>nənəl'pəxwiqw</i> OR <i>nəlpəxwiqw</i> (lit. ‘blond ones’); <i>nənəl'kwəmiqw</i> (lit. ‘red ones’) – all colour forms of salmonberries (<i>Rubus spectabilis</i>)	Turner and Hebda 2012

- ⁱ This term represents an exception, since Indigenous languages of BC and neighbouring areas generally do not include a single lexeme whose meaning corresponds with that of the English word “plant” (Turner 1974, 1987). This term would not include fungi (Turner and Efrat 1982, 20).
- ⁱⁱ As noted by Berlin (1992), many “intermediate” categories are covert, or unnamed, and may be quite variable and ephemeral (Turner 1989).

Expansion of Reference, Restriction of Reference, Type Categories, and Polysemy

As can be seen from Table 1, the names of taxa at different ranks in BC First Nations languages are frequently linked across the ranks, with terms that are applied at one rank (e.g., generic) also applied at a more general rank [e.g., as “plant, general” in the case of the Hesquiaht word for kinnikinnick (*Arctostaphylos uva-ursi*) in the first entry of the table]. In the development of a language, a category name at one rank may give rise to a name of a broader rank through a process of “expansion of reference” [e.g., the Haida name for Sitka spruce (*Picea sitchensis*), *kaayd* (Skidegate dialect), also sometimes refers to all evergreen trees in a forest (Turner 1974, 1988, 2004)]. Alternatively, a name for a particular plant may originate from a more general term, through “restriction of reference.” For example, the Stl’atl’imx term for black mountain huckleberry (*Vaccinium membranaceum*), *γúsa7*, is also a general term for “berry” and contains the same element as the words for “face” and “eye.”⁶ Expansion of reference can also occur in the broadening of a name to incorporate other objects with similar properties, as in Nuxalk *k’amk’* for bull kelp (*Nereocystis luetkeana*), also now “garden hose,” and Saanich *təw’təw’ə’ləqəp* for bracket fungus (*Laricifomes pinicola* and related spp.; lit. “echo-maker”), also now “telephone”.

⁶ Its name in Nuxalk and some other languages is also applied both specifically to black huckleberry and generally to all berries (Turner 1987, 1989; Turner et al. 1987).

As with worldwide ethnobiological classification systems and scientific taxonomies, BC indigenous plant classification systems include particular species or groups of species of high importance (e.g., black mountain huckleberry in several languages) that are regarded as the “most typical,” or “type,” of their categories. The names of these taxa may be elevated to a higher order category or named by a general category term (Berlin 1992). For instance, in a sense, the Interior Salish terms for black cottonwood (*Populus balsamifera* ssp. *trichocarpa*) reflect “type” status, serving as prime representatives of a broader category (see also Trager 1939). The Okanagan-Colville name is *mulx*, derived from an ancient Proto-Interior Salish term (Kuipers 2002). The related Nlaka’pamux term *muyx* refers to any tall bushes, whereas in Stl’atl’imx the corresponding term *mulx* means “stick” (Turner et al. 1990), all indicating a special elevated status for the term. (The “Chiefs” in the schematic diagram of Figure 1 could also be considered “types” for their categories.)

“Polysemy” refers to the name for a taxon being applied simultaneously at two different levels of inclusiveness (e.g., with black mountain huckleberry in Stl’atl’imx), and it is common in BC plant classification systems. Context distinguishes at which rank the word is being applied, and further descriptive terms can help avoid confusion. For example, the Stl’atl’imx term *qwláwa7* is applied to any onion; if a person wishes to specify the native nodding onion (*Allium cernuum*), she or he would say *qwláwa-7úl* (lit. “real/original onion”). Also among the Stl’atl’imx, bluebunch wheatgrass (*Pseudoroegneria spicata*) was distinguished from other grasses by its name (*s-)*ləqəm-7úl (lit. “real/original grass/hay”).

Cognates, Borrowed Names, Translation Borrowings, and Semantic Shifts

Similarities in words among BC Indigenous language families reflect both shared origins and subsequent contact. Cognate plant names – that is, those that are related due to derivation from a common ancestral form – are very common across languages within each of the various BC language families. The words for soapberry (*Shepherdia canadensis*) are a case in point: all the Salishan languages have related names for soapberry, all derived from a term reconstructed to Proto-Salish *xwus*, meaning “to foam, or froth” (because these saponin-containing berries can be whipped into a stiff foam, a favourite confection of Indigenous peoples of British Columbia) (cf. Kuipers 2002; Turner and Burton

2010). This, in turn, suggests an ancient origin not only for the name but also for the use of soapberries in making this whipped confection. The suggested ancient origin of soapberry use reflected in its names is consistent with other evidence of ancient use: widespread distribution of this species in the paleoecological record, mention of soapberry in traditional narratives, and development of specialized implements like soapberry whippers and soapberry spoons in a number of places (Turner and Burton 2010).

Plant names are also commonly borrowed from one language to another, and the direction of borrowing may be indicated by plant distribution.⁷ For instance, since soapberry does not grow on Haida Gwaii, its names in Skidegate and Masset dialects (*ʼas* and *xagutlʼiid*, respectively) can be assumed to have been borrowed from their Tsʼmsyen and Tlingit counterparts. Another example is marine edible red laver seaweed (*Pyropia abbotiae* and related spp.), whose names in coastal languages can be assumed to have been borrowed into interior languages of peoples such as Gitksan and Dakelh, who obtained the seaweed through trade (Turner 2003; Turner and Loewen 1998). Not all borrowings reflect a straightforward history: borrowed terms may be altered to better conform to the recipient language, with the usual suffixes being added, obscuring their origins. For example, the Haida and Tsʼmsyen (Coast Tsimshian) names for highbush cranberry (*Viburnum edule*) (*hlaayaa* and *lháiyá*, respectively) are obviously related. However, the bush itself has its own distinctive name in each respective language: *hlaayaa hlaqʼaʼii* “highbush cranberry bush” for Haida, and *sxʼán lháiyá* “wood of highbush cranberry” for Tsʼmsyen. The typical “bush” component of the name is specific to each language (Turner in press). In other cases, a name might be borrowed in concept but translated into the receiving language: “translation borrowing.” Running clubmoss (*Lycopodium clavatum*), for example, is named up and down the Northwest Coast, each name pertaining to “belt,” especially “deer’s belt,” but each rendered in the vocabulary of its respective language.

Semantic changes in BC languages are windows into a myriad of cultural changes. The previously mentioned Stlʼatlʼimx term (*(s-)lqəm-7úl* (“real/original grass/hay”) for bluebunch wheatgrass is an example of a “semantic shift” resulting from changing circumstances. After people started to practise ranching and replanted their lands with domesticated

⁷ In languages that are related it may be difficult to know whether two similar names are cognates or whether one or both are borrowed. Sometimes linguists have to rely on plant distributions/phytogeography to distinguish cognate words from those that are borrowed.

pasture and forage crops, the term started to be applied to introduced hay crops, alfalfa, sweet-clover, red clover, and timothy grass (Turner and Brown 2004).

Semantic shifts can also occur when people move to a different location and lose access to particular plants but gain access to other, similar ones, which then inherit the original name. For example, edible whitebark pine (*Pinus albicaulis*) seeds are called *stsek'* in Secwépemc and the tree is called *stsek'élhp*, terms deriving from Proto-Salish *s-c'ik'*, or *s-c'ik*, for fir or pine cone, hazelnut (*Corylus cornuta*), or acorn (*Quercus garryana*) (Kuipers 2002). Since the ancestral Salish homeland is thought to have been in the lower Fraser River valley (Kinkade 1989), where whitebark pine does not grow, the logical assumption is that the original meaning of *s-ts'ik'* shifted to embrace whitebark pine when this tree, with its edible “nuts,” was first encountered in the Interior mountains.

Plant Names and Their Application

For BC First Nations, as for the creators of ethnobiological, or “folk,” classification systems everywhere, there is no need to conform to any underlying rules in the naming and classification of plants.⁸ The primary purpose of these folk systems is to organize different kinds of plants in ways that assist memories and allow communication about species that are important in particular cultural contexts (including world views, practices, and culturally important species). They are therefore more variable in structure and generally less extensive than scientific taxonomies (Hunn and Brown 2011). Plants of lesser importance, even though they may be common and recognizable, are often named in BC Indigenous languages only by a higher order term, such as “grass,” “flower,” or “moss.” In turn, these general categories may incorporate only one or two named, distinctive members, along with a number of unnamed members within the broader taxon – as in the example of the Stl'atl'imx (*s-ləqəm-7úl*) for bluebunch wheatgrass, one of the few types of (*s-ləqəm*) (“grass/hay”) named at a generic level.

In general, the plants most commonly named in Indigenous languages of British Columbia reflect the ways in which people interacted with

⁸ This is in contrast to non-Aboriginal scientific biological classification, to which strict rules of nomenclature and organization are applied. Scientific taxonomy is intended to be exhaustive and to reflect evolutionary relationships of species. The significant convergence between scientific and folk systems is that they both reflect visible differences, or discontinuities, between various organisms – differences that tend to be due to genetically determined traits, on which the non-Aboriginal scientific system is based (Berlin 1992; Hunn and Brown 2011).

and perceived the plant world. These include those that are highly visible, especially trees and shrubs (almost all of which are named in almost all languages within the respective range of the species), those that are culturally important (as sources of food, materials, medicines or for other purposes), those that are distinctive in some way, and/or those that are potentially harmful or have close similarity to culturally salient types (Turner 1974). Distinctive features include: taste (e.g., the Okanagan word for black mountain huckleberries, *st'xalhk*, derived from *t'axt*, “sweet”); material use [e.g., the T'smsyen name for Pacific yew (*Taxus brevifolia*), *sahakwdak*, “bow”]; medicinal use [e.g., the Okanagan-Colville name for subalpine fir (*Abies lasiocarpa*), *merilhp* “medicine-plant”] (Turner et al. 1980); or colour, scent, or some other trait [e.g., the Ditidaht name for bedstraw (*Galium aparine*), *k'witipt*, “it grabs you,” because of the “sticky” nature of this plant]. In a study of over 625 distinct plant names (including many synonyms) in Nlaka'pamux Interior Salish, over 20 percent refer to growth form or some other notable characteristic of the plants and nearly 10 percent to colour of flowers or foliage (Turner et al. 1990). Some plants are named after their similarity to other plants, as in the Hesquiaht (Nuu-chah-nulth) name for ninebark (*Physocarpus capitatus*), *pilhpits'aqmapt*, “plant that resembles redcedar inner bark,” or one of the Haida names for broad-leaved plantain (*Plantago major*), *'laanaa hlgunga* (Skidegate dialect), “village skunk-cabbage,” or the Nlaka'pamux name for twisted stalk (*Streptopus amplexifolius*) and several other similar species in the Lily family: *snukw'ets e ke'lwet*, “friend/relative of false Solomon's-seal” (*Maianthemum racemosum*). Others are named from their association with animals. For example, a number of berry species are known as “black bear's berries” in various languages (Turner 1988). In some cases, if the terms are very old [e.g., the Tsilhqot'in word *chinsdad* for silverweed, or cinquefoil (*Potentilla anserina*)], or if they have been borrowed from another language (e.g., Skidegate Haida name for soapberry, *'as*), their original meaning is obscured (Turner and Burton 2010).

The meaning, or derivation, of a plant name – its etymology – can help us to understand its cultural history as well as its history of use. For instance, the terms for plants named after the tools made from them (or perhaps vice versa) would not only serve as names but also convey knowledge about the best material for a certain purpose. Examples include: the derivation of the name for yew tree as “bow,” or “bow tree,” in a number of languages; the name for bigleaf maple (*Acer macrophyllum*) as “paddle-tree” in some Salishan languages (e.g., *q'emel'áy*, “paddle

tree” [*sq'emel*, “paddle”] in Squamish) because of its use for making high-quality paddles; the name for oceanspray (*Holodiscus discolor*) in various languages as “digging stick plant” (e.g., Sechelt *qálxay* [cf. *sqalx*, “digging stick”]); the name for hardhack (*Spiraea douglasii*) as “fish spreader plant” (cf. Upriver Halkomelem *t'áats'elhp*) (Galloway 1982); and the name of devil's club (*Oplopanax horridus*) as “codfish lure plant” (*ḡayxwqwapł*) in Ditidaht (Turner et al. 1983).

DISCUSSION

The plant names and classification systems of BC First Nations epitomize the rich diversity of knowledge systems and of peoples' relationships with their environments. They show patterns of sharing and exchange between groups and how people adapt their lifeways to fit in with new and changing environmental, social, and economic conditions. They reflect long time frames and give clues about the cultural salience of particular species. Those species of highest cultural significance tend to have names that are more widespread across languages and show greater “lexical retention,” or longer duration within a language (Brown 2010; Turner 1988).

The levels of generality and inclusiveness in systems for naming plants – hierarchical arrangements – allow us to remember names and relationships more easily, just as we can use family names, along with “given names,” to help us remember that a particular group of siblings is interrelated. Thus, in British Columbia, as elsewhere, the suites of names for plants in Indigenous languages help people to remember the plants and to organize their knowledge about them. As these systems develop and as new plants are introduced or gain importance in a culture, it becomes relatively straightforward to “add in” new names. Often this is done simply by extending the reference for an existing term for a similar plant and calling the new plant by a variant of that name. In BC First Nations languages, many of the introduced domesticated species (like potatoes, rhubarb, onions, strawberries, and currants) are named with the same, or modified, terms that are used for similar indigenous species [e.g., wapato (*Sagittaria latifolia*), dock (*Rumex aquaticus* var. *fenestratus*), wild onions (*Allium* spp.), wild strawberries (*Fragaria* spp.), and red huckleberries (*Vaccinium parvifolium*)]. In this way, a new, overarching category may be created within the existing classification hierarchy. Sometimes the newly introduced plant or plant product comes with its own name, and in the development of languages and classification

systems, the new name may be adopted, in some cases replacing an existing name for a similar, already known plant. This type of replacement occurred in Haida with the native Pacific crabapple. The Haida name was completely transferred, at least by some, to domesticated apples, and native Pacific crabapples were then designated as “Haida apples,” an adjective that would not have been necessary before the new apples were introduced (Turner 1974, 2004).

Knowing how names become focused on one particular entity or species, and how they become broadened to apply at more general levels, can also inform our understanding of a given language and culture over time and geographical space. At what point does a merely descriptive name (e.g., English “black berry”) become formalized into a true name corresponding with a single kind of plant (“*blackberry*”), and what triggers such a change? We may never understand exactly how and when this shift occurs, but having examples from a wide spectrum of languages and environments can help us to identify the process.

Systems of ethnobiological and ethnobotanical classification also fit into a broader framework of vocabulary and conceptual knowledge of habitats, landscape features, and places (Johnson and Hunn 2010; Thornton 2008). They feed into the taxonomic systems of many other classes of things: tools, containers, weaving and cooking techniques, canoes and vessels, house types, kinship systems, and colours, to name just a few. As well, they connect with the ways in which humans care for and manage their plant resources; cultivation and domestication are intimately connected with the conceptual aspects of the plants involved and vice versa (Brown 2010).

In British Columbia, the Indigenous names and categories for plants provide a forum for assessing the impact of colonization and the dramatic shift in food production systems and lifeways that was imposed by the colonial authorities and settlers, and adopted, sometimes willingly, sometimes only out of necessity, by First Nations (Lutz 2008). The takeover of Indigenous lands and the explicitly stated policy of converting First Peoples to farming and ranching lifestyles in the European tradition resulted in the incorporation of a huge body of new names and terminology into existing plant classification systems (Turner and Brown 2004; Turner and Turner 2008). However, for most Indigenous people today, the loss of native vegetation and the degradation of many habitats and species due to industrial activities, urbanization, and other impacts have made it more difficult to maintain their familiarity with the original plants. Unfortunately, too, language suppression was part

of the colonial package, and the richness of peoples' languages and vocabularies – and plant classification systems in general – was subdued and, in some cases, totally lost through the influence of authoritarian residential schools and other colonial institutions. However, initiatives for language revitalization are flourishing for most of the province's Indigenous languages, and the renewal of names and knowledge associated with plants is a major part of many of these (cf. First Peoples' Cultural Foundation 2012). Furthermore, ethnoecological restoration has given some promise to enhancing the growth and recovery of indigenous plants and habitats. Because of this, we hope that the names and categorizations of plants and their associated knowledge will be able to continue into the future.

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