"Dog" as Life-Form[1]

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Abstract

The Berlinian framework for analyzing folk biological classification and nomenclature is best understood as a flexible cognitive tool rather than as a rigid structure of universal taxonomic ranks. I analyze vernacular English dog names to show that "dog" may be interpreted both as a folk generic taxon and a life-form taxon depending on the frame of reference. I analyze two samples, each including approximately 100 named "kinds of dogs"—the first from 19 respondents to a free-listing task, the second from the American Kennel Club (AKC) list of officially recognized dog breeds—to show that the set of categories so-named exhibit the characteristics considered definitive of life-form taxa by Berlin. I conclude that this result is "an exception that proves the rule," affirming the basic validity of the Berlinian perceptual-taxonomic theory.

Introduction

Berlin's (1992) taxonomic theory of universal folk biological classification and nomenclature is now firmly established in the ethnobiological literature (Anderson 2011:5–6). This foundation allows us to navigate the bewildering chaos of an initial encounter with the natural history of an unfamiliar language. Yet, those of us who have over the past four decades helped elaborate and refine the Berlinian paradigm know well that reality is too complex and varied to fit neatly within any single analytic frame, including Berlin's.

One substantial difficulty derives from the definition of universal taxonomic ranks. Berlin's framework requires that each and every folk biological taxon should fit uniquely within one and only one rank. Berlin's universal ranks are "kingdom," "life-form," "intermediate," "generic," "specific," and "varietal," in descending order of inclusion. These

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ranks are defined by strategic (perhaps "artful") combinations of nomenclatural, structural, and biological characteristics of taxa (cf. Hunn 1982; Berlin 1992:23–24; Figure 1). For example, taxa at the specific rank are characteristically named by "secondary names," which typically are binomial, composed of a generic head noun plus a modifying attributive, a nomenclatural characteristic (Berlin 1992:34, principle II-3). However, secondary names must be distinguished from "productive primary names"—which are also binomial—by reference to the "contrast set" to which they are assigned, which is a structural characteristic. So "bald eagle" is of specific rank, contrasting with "golden eagle," within the folk generic contrast set "eagle," while "mockingbird" is of generic rank, as it contrasts with such categories as "robin," "crow," and "owl," within the life-form "bird," a more broadly inclusive category, a biological characteristic. Thus deciding the rank of a particular category is not automatic but may require careful weighting of diverse factors (Figure 1).

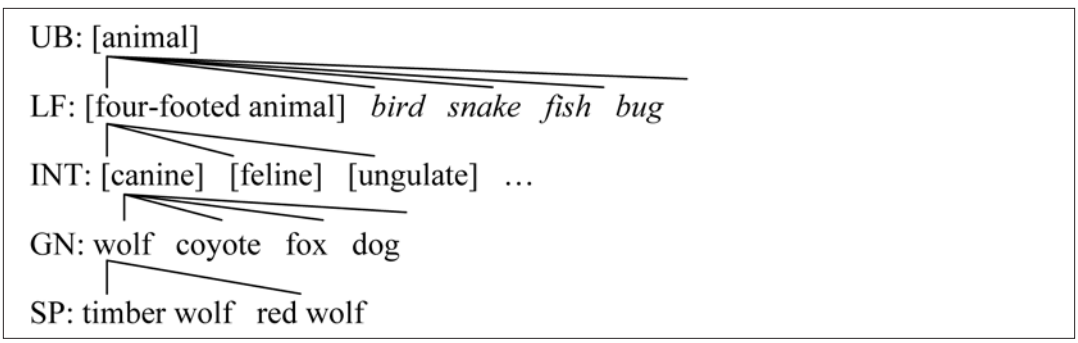


Figure 1. Standard taxonomic representation following Berlin (1992) (from Hunn and Brown 2011:329, Figure 19.3).

I propose here a modest complication of this basic scheme to accommodate an anomaly. This anomaly is most apparent, but not limited to, the classification of highly domesticated animals. A case in point elaborated below, is vernacular English "dog." "Dog" is a single Linnaean species, but a species so modified culturally as to exhibit a degree of phenotypic variety to be expected of a Linnaean genus or family. I argue that the resulting folk biological nomenclatural elaboration is best understood by a simple extension of the Berlinian framework. I call this extension taxonomic elevation.

Vernacular English "Dog"

My prime example of this anomaly is the American English vernacular nomenclature for breeds of dogs, each a member of the species *Canis (lupus) familiaris*, human camp follower for at least the past 15,000 years (Morey 2010). "Dog" in the English folk classification is a folk generic taxon within the animal domain or "kingdom," sharing this rank and contrasting with an extensive inventory of mammal categories, most of which are named with "simple primary names" or familiar elaborations thereof. Examples of contrasting folk generic animal categories include "cat," "rat," "coyote," "raccoon," "whale," "seal," "cougar," "rabbit," "cow," "pig," "camel," and "elephant," among the furry (or not so furry) beasts known more technically as "mammals." At this same generic rank we find as well such feathered fauna as "robin," "duck," "owl," "seagull," "sparrow, " blackbird," and "starling"; plus, in other life-forms, "cobra," "boa," "rattler," "turtle," "lizard," "frog," "salmon," "shark," "spider," "bee," "ant," and "wasp," to suggest the quantity and quality of English folk generic animal taxa.

According to Berlin, the generic rank encompasses the great majority of all named folk biological taxa (Berlin 1992:23–24). Most of these folk generic taxa—perhaps in excess of 80% (Berlin 1992:129)—will be monotypic, that is, they will include no named subcategories, for example, "cougar." Some folk generic taxa, however, will be polytypic, that is, they will include folk specifics. An example is "whale" which includes subcategories such as "blue whale" and "humpback whale." Vernacular English "dog" is one such polytypic generic taxon. However, "dog" is extraordinarily elaborated in comparison to the polytypic generics encountered in most other languages (Berlin 1992:122–133).

In more "natural" folk taxonomies—that is, those recorded from oral traditions of rural, subsistence-based communities—polytypic folk generics rarely include more than five to ten folk specific subcategories. The rare exceptions include major staple cultivars such as manioc for the Aguaruna Jívaro of Peru (Boster 1985) or for rice, taro, sweet potatoes, or plantains in certain Southeast Asian societies (Berlin 1992:124–125), or horses (late historical introduction) for the Sahaptin-speaking Indians of the Columbia River Plateau of western North America (Hunn and Selam 1990:330–331). I believe such "super-polytypic" taxa pose interesting challenges for the Berlinian theory and thus warrant close scrutiny.

In my view, vernacular English "dog" breeds cannot be readily analyzed as either folk specific or varietal taxa, as defined by the Berlinian framework (Berlin 1992:31–35). Instead, "kinds of dogs" exhibit all the distinguishing nomenclatural and structural characteristics we should expect of taxa subordinate to a life-form (Berlin 1992:33–34); that is, most are breed generics, and may be either simple or polytypic, the latter including breed specifics (Figure 2), which also may be polytypic, and these include varietals. We even find breed intermediates, which group multiple breed generics. None of this fits the standard model if "dog" is treated as a generic. To accommodate these nomenclatural elaborations for naming "kinds of dogs", one would need to invent new folk taxonomic ranks, adding a second "intermediate" rank between the folk generic and specific ranks and a sub-varietal rank. It would also be necessary to detail a large number of exceptions to Berlin's original principles to take account of the conceptual and nomenclatural complexities. On the other hand, no such ad hoc theoretical manipulations are required and it all makes perfect sense if "dog" is analyzed as if it were both a folk generic and a life-form.

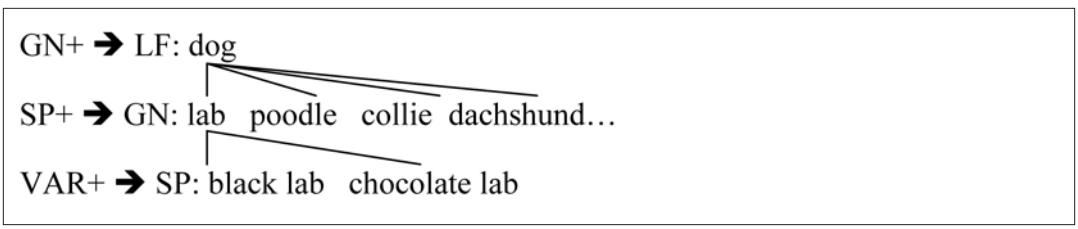


Figure 2. Dog as life-form (from Hunn and Brown 2011:329, Figure 19.4).

Methods

An analysis of a folk biological classification system in any language should be based on a sample of terms in use which is as nearly comprehensive as possible. These terms are then organized into contrast sets at the appropriate taxonomic rank, applying Berlin's criteria.

I rely for my analysis here on two data sets. First is an inventory of "kinds of dogs" elicited from 19 respondents as a class project of my winter 2003 University of Washington Cognitive Anthropology seminar. Second is an alphabetical listing of the American Kennel Club's officially recognized dog breeds, which is posted on the internet (American Kennel Club 2012). This data set listed 174 official dog breeds.

In my class project sample, students were asked to write down (or freelist) the names of as many "kinds of dogs" as they could recall, up to a total of 25, without consulting external references. They were also invited to request the same of one or more friends or relatives. Ten of the nineteen lists submitted included the limit of 25 names. Three more included 20–24, four more 15–19, with just two shorter lists. These names were then alphabetized by head noun to produce the master list. The 36 most frequently named were then used for a pile sorting task, which is beyond our purview here.

Results

The class project elicited 89 kinds of dogs, once the data were "cleaned" for inadmissible, fanciful, or anomalous terms, such as "Lassie," "hot dog," and "coyote" (see Appendix 1). The 19 respondents recorded a total of 60 "generic" dog names, of which approximately 15 were polytypic (Appendix 1). The polytypic breed names include at least 44 "specific" dog names. Polytypic breeds ranged from binaries to highly polytypic taxa. Binaries break into two "specifics," as in "standard poodle" and "toy poodle" or "Australian sheepdog" and "English sheepdog." [2] Highly polytypic categories contain several specifics such as "terrier," which included eight named "specifics," such as "fox terrier," "Jack Russell terrier," and "Scottish terrier," which might be abbreviated as "Scottie." One term appeared to label an "intermediate" taxon: this is "hound" and its exotic cognates such as "hund," as in "dachshund" (a.k.a. "wiener dog"), which included breeds such as "wolfhound," "greyhound," "bloodhound," and Afghan (hound), each best treated, in my judgment, as a "generic" breed.

One particularly complicated case is that of "retriever." Respondents listed "Chesapeake Bay retriever," "golden retriever," and "Labrador retriever." However, "Labrador retrievers" (Figure 3) are better known as "labs," which would appear to be a generic breed in its own right, as it includes such varieties as "black lab," "chocolate lab," and "yellow lab" (Figure 4). Alternatively, we might treat these various "labs" as dog breed "varietals (that is, as subdivisions of the breed specific "lab," which in turn is a subdivision of the breed generic "retriever") as it is not unusual for folk specific names to be abbreviated

Above: Figure 3. My wife, Nancy, with our late favorite Ella, black lab with a bit of Australian Shepherd. As is said of labs, she was a puppy until three days after the day she died.

Left: Figure 4. A "yellow lab," Gaius. Photograph by Maggie Quinlan, used with permission.

when employed as the head noun for a varietal term. A non-dog example of this is "tiger swallowtail (butterfly)."

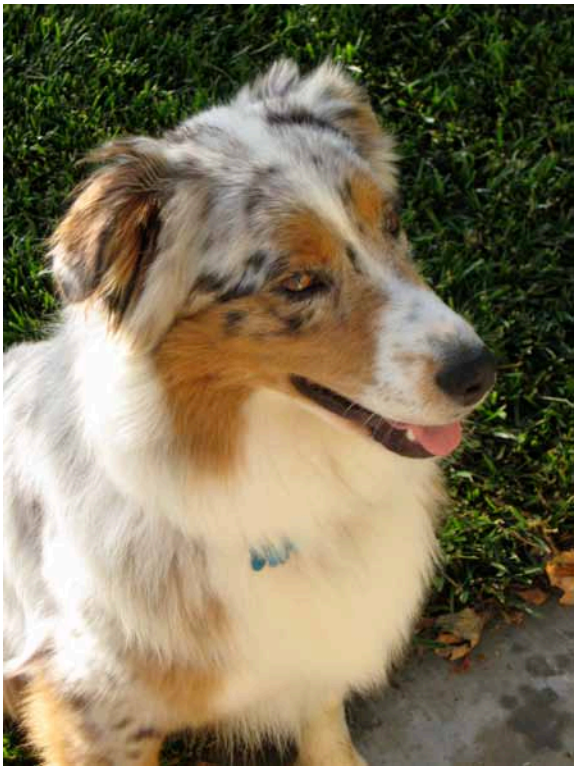
Or we might analyze "lab" as an example of Brown's "folk subgenus" (Brown 1987), a nomenclatural response when a generic must expand to include a wider range of organisms, often as a consequence of historic species introductions. Examples include deer as "forest sheep" (Tzeltal Mayan in Hunn 1977:227–228), wheat as "Castillian corn" (Zapotec in Hunn 2008:87), or dog as "little horse" (Sahaptin in Hunn and Selam 1990:329). These examples expand the semantic range of the original generic. An additional example is "pit bull." This seems best treated as a breed generic rather than as a kind of terrier, e.g., "pit-bull terrier," as in the official AKC breed list.

There are a few terms which I suggest name residual generic categories. A residual category is "… defined negatively, i.e., an organism is perceived to be a member of X but **not** a member of any distinctive kind of X." For example, a "mutt" or mongrel is any dog that is not a particular "kind of dog" (Hunn 1977:57). We also find analogs of special purpose categories (Anderson 2011:5), such as "guard dog" and "seeing-eye dog."

Finally, it is noteworthy that some respondents included as "kinds of dog" wild relations, such as "wolf," "coyote," "dingo," and "African wild dog." This suggests a polysemous higher order concept inclusive of all "canines." Thus, some English speakers, at least, conceive of "dog" not only as equivalent to the Linnaean species *Canis familiaris* (dog_1) but also as equivalent to the Linnaean family Canidae (dog_2). Berlin refers to these polysemous supergeneric taxa as "intermediates" (Berlin 1992:139–141), which would be an appropriate rank for "dog" as a folk generic but not as a life-form, unless we invent yet another taxonomic rank superordinate to the life-form yet subordinate to kingdom. I would argue against this alternative as unnecessarily complicating.

The more formally-specified "official" American Kennel Club (AKC) dog breed nomenclature exhibits many of these same features, with added elaboration (see Appendix 2). There are 33 recognized "terrier" breeds in the AKC, all with binomial or more elaborate names, and 13 "spaniel" breeds, including three polytypic specifics, for example, "water spaniel" which includes "American" and "English water spaniel" varietals. There are six types of "retrievers," four types of "shepherd" (Figures 5 and 6), and five each of

Above: Figure 5. A German shepherd, Maggie May. Photograph by Charles Snyder, used with permission.



Left: Figure 6. An Australian shepherd, Jada. Photograph by Alissa Miller, used with permission.

"sheepdog" and "coonhound." The intermediate status of "hound" is again apparent, as there are not only "coonhounds" but also "deerhounds," "fox hounds," "greyhounds," plus "dachshunds" and "keeshonds," in addition to "Afghan" and "Pharoh hounds." Of the 174 AKC recognized breeds, 93 are "generic breeds." Of these, 19 are polytypic, including a total of 72 "specific breeds." Five of these are in turn polytypic, including a total of 14 "varietal breeds." This degree of elaboration is fully comparable to that of the largest life-forms in any language (Brown 1984).

Discussion

That the vernacular English "dog" classification and nomenclature exhibits all the features to be expected of a life-form does not argue against the utility and power of the Berlinian taxonomic framework. On the contrary, this is an "exception that proves the rule" in that "dog" fits neatly the criteria Berlin has specified for life-form taxa, despite its dual status as a folk generic taxon. It does suggest that we need to understand folk taxonomies not as rigid structures but as flexible cognitive mechanisms that may be adapted in predictable ways to varied cultural contexts and the life experiences that follow. Perhaps we should imagine not taxonomic trees, but rather taxonomic fractals[3], structures which are self-replicating, exhibiting the same complex patterns even as we "zoom in" to focus more closely on some particular salient corner of our world's biodiversity. In modern urban America, dogs have been genetically manipulated to the point that the available phenotypes exhibit a large number of "perceptual discontinuities" (Hunn 1977) ripe for naming as folk generics. It is a matter of perspective. "Dog" is still a folk generic taxon in the context of the animal domain, but a life form when dogs are at the center of cultural attention (e.g., Figure 7). I suggest we call this phenomenon "generic elevation." A parallel, if opposite phenomenon has already been noted and designated "life-form devolution," as in the case of vernacular English "tree," which has been trimmed to the size of a folk generic shrub for many urban Americans (Dougherty 1978:67; Rosch 1978). Both taxonomic elevation and life-from devolution make sense as flexible cultural responses to urban realities.

Figure 7. My daughter, Serena Stark, and grandson, Ethan, with gentle Mollie, a Rhodesian Ridgeback, a shelter orphan. Deeply insecure at first, once when left alone she caused a thousand dollars in damage to the house in her desperate efforts to escape.

Notes

1. I briefly introduced this example in *Ethnobiology* (Anderson et al. 2011) in a chapter on "Linguistic ethnobiology" co-authored with Cecil H. Brown (Hunn and Brown 2011:329).
2. Note that "sheepdog" here is analogous to "mockingbird" and "tulip tree," both "productive primary names" which typically name folk generics (Berlin 1992:28). Other examples here include "bulldog" and "mountain dog."
3. "Fractals are typically self-similar patterns, where *self-similar* means they are 'the same from near as from far.' Fractals may be exactly the same at every scale, or … they may be *nearly* the same at different scales. The definition of *fractal* includes the idea of a **detailed pattern** repeating itself." (Wikipedia 2012)

References Cited

American Kennel Club (AKC). 2012 Complete List of AKC Recognized Breeds. Available at: http://www.akc.org/breeds/complete_breed_list.cfm (verified January 2012).

Anderson, E.N. 2011 Ethnobiology: Overview of a Field. In *Ethnobiology*, eds. E.N. Anderson, Deborah M. Pearsall, Eugene S. Hunn, and Nancy J. Turner, pp. 1–14. Wiley-Blackwell, Hoboken, N.J.

Anderson, E.N., Deborah M. Pearsall, Eugene S. Hunn, and Nancy J. Turner, eds. 2011 *Ethnobiology*. Wiley-Blackwell, Hoboken, N.J.

Berlin, Brent. 1992 *Ethnobiological Classification: Principles of Categorization of Plants and Animals in Traditional Societies*. Princeton University Press, Princeton, N.J.

Boster, James Shilts. 1978 "Requiem for the Omniscient Informant": There's Life in the Old Girl Yet. In *Directions in Cognitive Anthropology*, ed. Janet W.D. Dougherty, pp. 177–198. University of Illinois Press, Urbana and Chicago.

Brown, Cecil H. 1984 *Language and Living Things: Uniformities in Folk Classification and Naming*. Rutgers University Press, New Brunswick, N.J.

Brown, Cecil H. 1987 The Folk Subgenus: A New Ethnobiological Rank. *Journal of Ethnobiology* 7:181–192.

Dougherty, Janet W.D. 1978 Salience and Relativity in Classification. *American Ethnologist* 5:66–80.

Hunn, Eugene S. 1977 *Tzeltal Folk Zoology: The Classification of Discontinuities in Nature*. Academic Press, New York, N.Y.

Hunn, Eugene S. 1982 The Utilitarian Factor in Folk Biological Classification. *American Anthropologist* 84:830–847.

Hunn, Eugene S., and Cecil H. Brown. 2011 Linguistic Ethnobiology. In *Ethnobiology*, eds. E. N. Anderson, Deborah M. Pearsall, Eugene S. Hunn, and Nancy J. Turner, pp. 319–333. Wiley-Blackwell, Hoboken, N. J.

Hunn, Eugene S., with James Selam and family. 1990 *Nch'i-Wána, The Big River: Mid-Columbia Indians and Their Land*. University of Washington Press, Seattle.

Morey, Darcy. 2010 *Dogs: Domestication and the Development of a Social Bond*. Cambridge University Press.

Rosch, Eleanor. 1978 Principles of Categorization. In *Cognition and Categorization*, eds. Eleanor Rosch and Barbara Lloyd, pp. 28–49. Lawrence Erlbaum Associates, Hillsdale, N.J.

Wikipedia. 2012 Fractals. Available at: http://en.wikipedia.org/wiki/Fractal (verified May 2012).

Appendix 1: Vernacular English "Kinds of Dog" Class Project

(Data from: Anthropology 542 - Cognitive Anthropology, Winter 2003, University of Washington, Seattle, WA; N = 19 respondents).

Afghan	hound [dog]	Gordon setter
airedale	Siberian husky	Irish setter
akita	husky	red setter
basset [hound]	skipper key	setter
beagle	black lab	sharpai/sharpei
bichon frise	chocolate lab	Australian sheepdog
boxer	golden lab, synonym of yellow lab	English sheepdog
bulldog	yellow lab	sheepdog
hairless chihuahua	labrador [retriever]	blue sheltie
chihuahua	Lassie	sheltie
chow	Lhasa Apso	Australian shepherd
cockapoo	[Alaskan] malamute	Belgian shepherd
blue collie	maltese	German shepherd
border collie	bull mastiff	shepherd
rough collie	Tibetan mastiff	shi[a]tzu
collie	mastiff	Brittany spaniel
Pembroke Welsh corgi	mutt	cocker spaniel
corgi	pekinese	springer spaniel
coyote	pinscher	spaniel
dachshund	pit-bull	spitz
dalmation	pointer	Australian terrier
dingo	pomeranian	Boston terrier
miniature doberman	French poodle	Brittany terrier
doberman [pinscher]	standard poodle	fox terrier
African wild dog	toy poodle	Jack Russell terrier
Aztec hairless dog, synonym of xoloitzcuintle	poodle	rat terrier
bird dog	Prince Charles	Scottish terrier
Burmese mountain dog	pug	Yorkshire terrier
hot dog (*sic.*)	Chesapeake Bay retriever	terrier
junkyard dog	golden retriever	weimeraner
hound dog	labrador retriever	weiner [dog], synonym for dachshund
fox	retriever	westie
great dane	rottweiler	timber wolf
greyhound	Saint Bernard	Irish wolfhound
Australian blue heeler	salchicha	Russian wolfhound
Queensland heeler	samoyed	wolfhound
blood-hound	schnauzer	xoloitzcuintli
blue tick hound	scottie [dog]	
wolfhound	English setter	

Appendix 2: AKC Officially Recognized Dog Breeds

(From American Kennel Club, 2012, see http://www.akc.org/breeds/complete_breed_list.cfm.)

Affenpinscher	Bull Terrier	Glen of Imaal Terrier
Afghan Hound	Bulldog	Golden Retriever
Airedale Terrier	Bullmastiff	Gordon Setter
Akita	Cairn Terrier	Great Dane
Alaskan Malamute	Canaan Dog	Great Pyrenees
American English Coonhound	Cane Corso	Greater Swiss Mountain Dog
American Eskimo Dog	Cardigan Welsh Corgi	Greyhound
American Foxhound	Cavalier King Charles Spaniel	Harrier
American Staffordshire Terrier	Cesky Terrier	Havanese
American Water Spaniel	Chesapeake Bay Retriever	Ibizan Hound
Anatolian Shepherd Dog	Chihuahua	Icelandic Sheepdog
Australian Cattle Dog	Chinese Crested	Irish Red and White Setter
Australian Shepherd	Chinese Shar-Pei	Irish Setter
Australian Terrier	Chow Chow	Irish Terrier
Basenji	Clumber Spaniel	Irish Water Spaniel
Basset Hound	Cocker Spaniel	Irish Wolfhound
Beagle	Collie	Italian Greyhound
Bearded Collie	Curly-Coated Retriever	Japanese Chin
Beauceron	Dachshund	Keeshond
Bedlington Terrier	Dalmatian	Kerry Blue Terrier
Belgian Malinois	Dandie Dinmont Terrier	Komondor
Belgian Sheepdog	Doberman Pinscher	Kuvasz
Belgian Tervuren	Dogue de Bordeaux	Labrador Retriever
Bernese Mountain Dog	English Cocker Spaniel	Lakeland Terrier
Bichon Frise	English Foxhound	Leonberger
Black and Tan Coonhound	English Setter	Lhasa Apso
Black Russian Terrier	English Springer Spaniel	Löwchen
Bloodhound	English Toy Spaniel	Maltese
Bluetick Coonhound	Entlebucher Mountain Dog	Manchester Terrier
Border Collie	Field Spaniel	Mastiff
Border Terrier	Finnish Lapphund	Miniature Bull Terrier
Borzoi	Finnish Spitz	Miniature Pinscher
Boston Terrier	Flat-Coated Retriever	Miniature Schnauzer
Bouvier des Flandres	French Bulldog	Neapolitan Mastiff
Boxer	German Pinscher	Newfoundland
Boykin Spaniel	German Shepherd	Norfolk Terrier
Briard	German Shorthaired Pointer	Norwegian Buhund
Brittany	German Wirehaired Pointer	Norwegian Elkhound
Brussels Griffon	Giant Schnauzer	Norwegian Lundehund
Norwich Terrier	Redbone Coonhound	Staffordshire Bull Terrier
Nova Scotia Duck Tolling Retriever	Rhodesian Ridgeback	Standard Schnauzer

Old English Sheepdog	Rottweiler	Sussex Spaniel
Otterhound	Saint Bernard	Swedish Vallhund
Papillon	Saluki	Tibetan Mastiff
Parson Russell Terrier	Samoyed	Tibetan Spaniel
Pekingese	Schipperke	Tibetan Terrier
Pembroke Welsh Corgi	Scottish Deerhound	Toy Fox Terrier
Petit Basset Griffon Vendéen	Scottish Terrier	Treeing Walker Coonhound
Pharaoh Hound	Sealyham Terrier	Vizsla
Plott	Shetland Sheepdog	Weimaraner
Pointer	Shiba Inu	Welsh Springer Spaniel
Polish Lowland Sheepdog	Shih Tzu	Welsh Terrier
Pomeranian	Siberian Husky	West Highland White Terrier
Poodle	Silky Terrier	Whippet
Portuguese Water Dog	Skye Terrier	Wire Fox Terrier
Pug	Smooth Fox Terrier	Wirehaired Pointing Griffon
Puli	Soft Coated Wheaten Terrier	Xoloitzcuintli
Pyrenean Shepherd	Spinone Italiano	Yorkshire Terrier