Naming of Organisms

The scientific name for organisms is used to identify species to scientists around the world.

For example, this animal is called a skunk in Pennsylvania but people from Georgia call it a polecat. If you are not familiar with all of the localized names of an organism, you cannot be sure two people are talking about the same thing. It becomes even more confusing when German scientists attempt to communicate with American scientists. By using the name *Mephitis mephitis*, all scientists know they are talking about the same animal.

The scientific name also serves to provide information about the organism. For example, in Latin, mephit means foul odor and -itis means having the character of something. Note that the name does not always reference the characteristics. Sometimes the species name is based on who discovered the species (i.e. Jefferson salamander is called *Ambystoma jeffersonianum*) or where it was first described (i.e. the meadow vole *Microtus pennsylvanicus* was first found in Pennsylvania).

See if you can match the following common names with the scientific names.

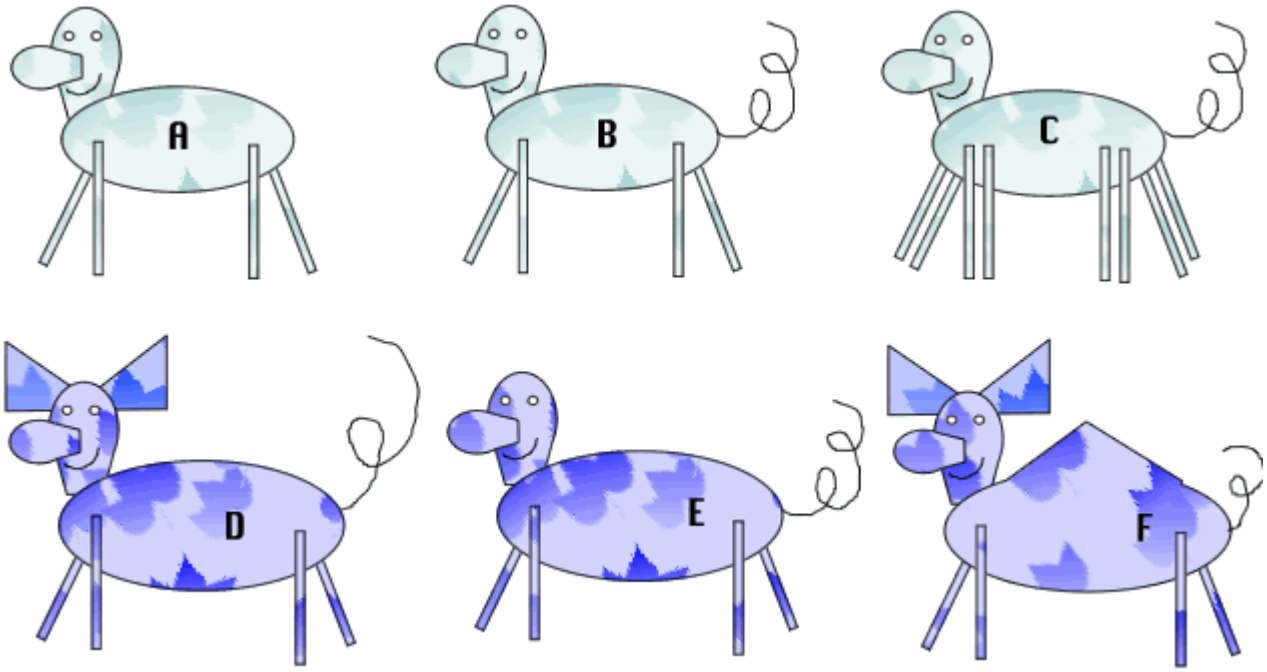
1. Canada Goose	_____	A. *Passer domesticus*
2. Eastern Chipmunk	_____	B. *Sorex vagrans*
3. Two-lined Salamander	_____	C. *Eurycea longicauda*
4. Longtail Salamander	_____	D. *Branta canadensis*
5. Fowler's Toad	_____	E. *Erethizon dorsatum*
6. Wood Frog	_____	F. *Bufo fowleri*
7. Stinkpot (a turtle)	_____	G. *Sternotherus odoratus*
8. Pine Siskin (a bird)	_____	H. *Canis familiaris*
9. Domestic Dog.	_____	I. *Tamias striatus*
10. House Sparrow (another bird)	_____	J. *Rana sylvatica*
11. Porcupine	_____	K. *Carduelis pinus*
12. Vagrant Shrew (a rodent)	_____	L. *Eurycea bislineata*

Hints: Tarnias means collector of things
Striatus refers to stripes
Erethizo means “I rise to anger”
Dorsatum means dorsal or back area
Cauda refer to the tail
Pennsylvania means “Penn’s Woods”

Using Dichotomous Keys

A dichotomous key is a written set of choices that leads to the name of an organism. Scientists use these to identify unknown organisms.

Consider the following animals. They are all related, but each is a separate species. Use the dichotomous key below to determine the species of each.



1.	Has green colored body .....go to 2
	Has purple colored body ..... go to 4
2.	Has 4 legs .....go to 3
	Has 8 legs ..... *Deerus octagis*
3.	Has a tail ..... *Deerus pestis*
	Does not have a tail ..... *Deerus magnus*
4.	Has a pointy hump ..... *Deerus humpis*
	Does not have a pointy hump.....go to 5
5.	Has ears .....*Deerus purplinis*
	Does not have ears .....*Deerus deafus*

Fish key

Step 1
If fish shape is long and skinny…

then go to Step 2

If fish shape is not long and skinny…

then go to step 3

Step 2
If the fish has pointed fins, it is a trumpet fish

If the fish has smooth fins, it is a spotted moray eel

Step 3
If fish has both eyes on top of the head…

then go to step 4

If fish has one eye on each side of the head…

then go to step 5

Step 4
If the fish has long whip-like tail, it is a spotted eagle ray

If the fish has short, blunt tail, it is a peacock flounder

Step 5
If fish has spots…

then go to step 6

If fish does not have spots…

then go to step 7

Step 6
If fish has chin "whiskers," it is a spotted goat fish

If fish does not have chin "whiskers," it is a band-tail puffer

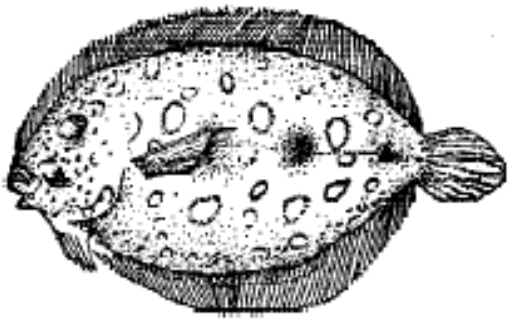
Step 7
If fish has stripes…

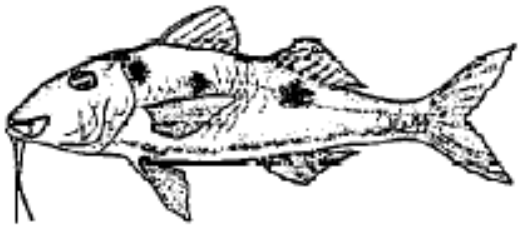
then go to step 8

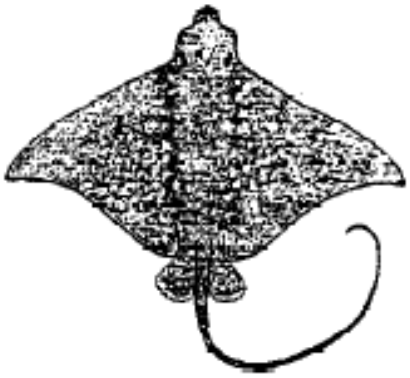
If fish does not have stripes, it is a glassy sweeper

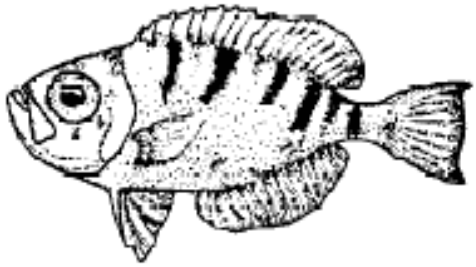
Step 8
If fish has a v-shaped tail, it is a squirrel fish

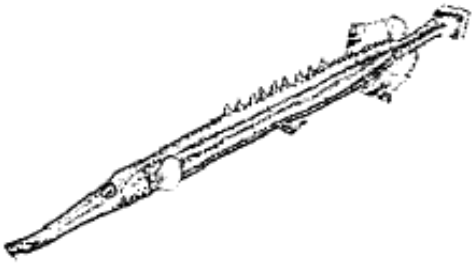
If fish has a blunt tail, it is a glass-eye snapper

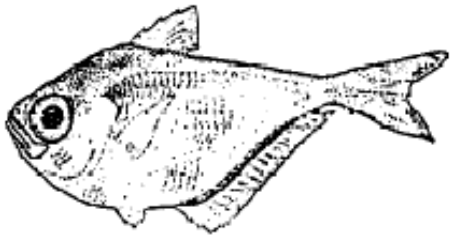


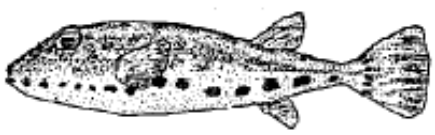












Wacky People Key

1a Two feet	2
1b Some other number of feet	3
2a Does not look at all human	4
2b Looks a lot like a human	5
3a One leg	6
3b Three or four legs	7
4a Fly-like	Mosk Cara
4b Not fly-like	8
5a Seems to be a girl	Rita Nita
5b Not a girl	9
6a Leg is curled , two feet	Ru-ela.Brella
6b Leg is straight, one foot	Giggles
7a Three legs	10
7b Four legs	11
8a Has webbed feet	Hex Oculate
8b Clawed feet	12
9a Curly hair, no toes	Lugio Wirum
9b Wiggly looking mouth, three toes on feet	C. Nile
10a Very long nose, open mouth	Elle E. Funk
10b Some other appearance	13
11a Has duck bill, two pinchers	Tri D. Duckt
11b No arms or pinchers	14
12a Has ears, tail, and beak	Grif Leon
12b Four eyes on stalks	Eggur Ondy
13a One eye, webbed feet	Cue Kide
13b Four stalked eyes, four pinchers	Quadrumenox
14a Three toed feet, nose like a flower	Tunia petalos
14b Spider-like, has spots	Patterned mulywumpus

WACKY PEOPLE

Dichotomous Key to Pets

Using the key below, write the scientific name for these common pets next to the common name.

Box Turtle _____

Cat _____

Dog _____

Ferret _____

Goldfish _____

Guinea Pig _____

Hamster _____

Hermit Crab _____

Horse _____

Iguana _____

King snake _____

Naked Mole Rat _____

Parakeet _____

Parrot _____

Pig _____

Pigeon _____

Rabbit _____

Rhesus Monkey _____

Tarantella _____

1A.	Pet has more than four legs	Goto 2
1B.	Pet has four legs or less	Goto 3
2A.	Pet has a hard outer shell	*Pagurus bernhardus*
2B.	Pet does not have a hard outer shell	*Lycosa tarentula*
3A.	Pet is a fish	*Carassius auratus*
3B.	Pet is not a fish	Goto 4
4A.	Pet has no legs	*Lampropeltis getula*
4B.	Pet has legs	Goto 5

5A.	Pet has fur or hair	Goto 6
5B.	Pet has no fur or hair	Goto 15
6A.	Pet has hooves	Goto 7
6B.	Pet has claws	Goto 8
7A.	Pet is over three feet tall	*Equus caballus*
7B.	Pet is less than three feet tall	*Sus scorfa*
8A.	Pet is rodent-like	Goto 9
8B.	Pet is not rodent-like	Goto 11
9A.	Pet has primitive eyes	*Condylura cristata*
9B.	Pet has a short tail	Goto 10
10A.	More than 8” in length, big rounded nose, legs hidden	*Cavia porcellus*
10B.	Less than 8” in length, tailless	*Cricetus crucetus*
11A.	Pet has long hind legs and short front legs	*Oryctolagus cuniculus*
11B.	All legs are roughly equal size	Goto 12
12A.	Pet has finger-like paws	*Macaca mulatta*
12B.	Pet has actual paws	Goto 13
13A.	Pet is long and low to ground	*Mustela putorius*
13B.	Pet’s length is proportionate to height	Goto 14
14A.	Pet has point ears	*Felis domesticus*
14B.	Pet has floppy ears	*Canis familiaris*
15A.	Pet has wings	Goto 16
15B.	Pet does not have wings	Goto 18
16A.	Pet is brightly colored	Goto 17
16B.	Pet is bland in color	*Columba columba*
17A.	Pet is small	*Melopsittacus undulatus*
17B.	Pet is large	*Psittacus erithacus*
18A.	Pet has a shell	*Tarapene carolina*
18B.	Pet has no shell	Goto 19
19A.	Pet’s back legs are longer than front legs	*Rana catesbeiana*
19B.	All legs are roughly the same length	*Iguana iguana*

Questions:

1. Is this key based on simple characteristics or on evolutionary relationships? Give an example explaining your answer.

2. Does this key sort fish by real biological groups?

3. How easy would it be to add a new fish to this key (i.e. trout)?

4. Are there any characteristics listed that might not be true for all individuals in that group?

5. Were there any characteristics that were not clear?

6. What are possible problems with dichotomous keys?

7. What are some examples of how this key could be improved?